



SkyCity Marriott Hotel, Hong Kong

# Conference Proceedings

## 2012 HKICEPS

Hong Kong International Conference on  
Education, Psychology and Society

## 2012 GEBF

Annual Conference on Global Economics,  
Business and Finance

**2012 Hong Kong International Conference  
on Education, Psychology and Society**

**2012 Annual Conference on Global  
Economics, Business, and Finance**

**December 14-16, 2012**

**Hong Kong**

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# **Instructions for Oral /Poster Presentations**

Welcome and thank you for your contribution. To ensure each session going smoothly and all attendees enjoy your presentation and opportunities interacting with presenters, please take care of the followings.

## **Oral Presentation**

### **Equipment Provided by the Conference Organizer:**

- ❖ Laptop Computer (MS Windows Operating System with MS PowerPoint & Adobe Acrobat Reader )
- ❖ Built-In LCD Projector with Screen
- ❖ Cable Microphone
- ❖ Whiteboard, Flip Chart

### **Materials Provided by the Presenters:**

- ❖ File(s) in Microsoft PowerPoint or PDF format

### **Duration of Each Presentation:**

- ❖ Regular Oral Session: approximately 15 minutes for each oral presentation, including 3 minutes for Q&A.
- ❖ Please check the conference program online for the precise date and time of you presentation session.
- ❖ Presenters are suggested to enter the specific session room 5 minutes earlier before the session begins.

# Poster Presentation

## Materials Provided by the Conference Organizer:

- ❖ X Racks & Base Fabric Canvases (60cm×160cm, see the figure below)
- ❖ Adhesive Tapes or Clamps



## Materials Prepared by the Presenters:

- ❖ Home-made Poster(s)

## Requirement for the Posters:

- ❖ Material: Abstract/Full paper printed on a poster/A4 paper(s) which can be posted on the Canvases
- ❖ Size: smaller than 60cm×160cm
- ❖ Content: The research findings in the poster presenter's abstract/ full paper

# **2012 HKICEPS**

**2012 Hong Kong International Conference**

**on Education, Psychology and Society**

## **Conference Program**

**December 14-16, 2012**

**Hong Kong**

Proceedings of Hong Kong International Conference  
on Education, Psychology and Society

ISBN 978-986-87417-3-7

# Conference Organization

## International Committee

<i>Abbas Gholtash</i>	<i>Islamic Azad University</i>
<i>Adrian North</i>	<i>Curtin University</i>
<i>Armin Mahmoudi</i>	<i>University of Malaya</i>
<i>Asrul Akmal Shafie</i>	<i>University of Malaya</i>
<i>Awam Amkpa</i>	<i>New York University</i>
<i>Bishnu Mohan Dash</i>	<i>University of Delhi</i>
<i>Cai Su</i>	<i>Beijing Normal University</i>
<i>Channaveer Rachayya Mathapati</i>	<i>Davangere University</i>
<i>Debkumar Chakrabarti</i>	<i>Indian Institute of Technology Guwahati</i>
<i>Geoffrey I. Nwaka</i>	<i>Abia State University</i>
<i>I Wayan Suyadnya</i>	<i>Brawijaya University</i>
<i>Laura B. Liu</i>	<i>Beijing Normal University</i>
<i>Leela Pradhan</i>	<i>University Kathmandu</i>



# Advisory Committee

*Lee Byung Hyuk*

*University of Seoul*

*Li-Ling Yang*

*Roger Williams University*

*Yang Lee*

*Gyeongsang National University*

*Mahabbat Pernebaevna*

*Pedagogical Institute*

*Khalachuchi Flores*

*Southwestern University*

*Md Abdul Jalil*

*Shahjalal University of Science &  
Technology*

*Mohamed Azmi Ahmad Hassali*

*Universiti Sains Malaysia*

*Napaporn Srichanyachon*

*Language Institute*

# Program Committee

<i>Özlem AVCI</i>	<i>Uşak University</i>
<i>Rajeshwari Nagaraj Kenchappanavar</i>	<i>Karnatak Arts College</i>
<i>Reyhan Bilgiç</i>	<i>Middle East Technical University</i>
<i>Rizwana Yousaf</i>	<i>University of Gujrat</i>
<i>Robert Evola</i>	<i>Université de Yaoundé</i>
<i>Sakina Riaz</i>	<i>University of Karachi</i>
<i>Subhan El Hafiz</i>	<i>Muhammadiyah University</i>
<i>Tirelo Modie-Moroka</i>	<i>University of Botswana</i>
<i>Ying Xing</i>	<i>China University of Political Science and Law</i>
<i>Young-Ok Kim</i>	<i>Chonnam National University</i>

# Special Thanks

## Session Chairs

*Noor-Azniza Ishak*

*University Utara Malaysia*

*Val Chapman*

*University of Worcester*

*Sunanta Suthithatip*

*Sriracha School*

*Ranbir Singh Malik*

*Universitas Pendidikan Indonesia*

*Margaret Mun-Yee Cheung*

*Queensland University of Technology*

*Maricris B. Acido*

*University of the Philippines, Diliman*

*Marie Grace Avelino Gomez*

*University of the Philippines-Diliman*

*Anna Toom*

*Touro College*

*Weifen Lin*

*National Hsinchu University of  
Education*

*Julia Suleeman*

*Universitas Indonesia*

*Yang Lee*

*Gyeongsang National University*

*Voon Chin Phua*

*Gettysburg College*

*JongSerl Chun*

*Ewha Womans University*

# HKICEPS Schedule

Friday, December 14, 2012

Committee Meeting (Committee Only)

## Schedule for Oral Sessions (Meeting Room 1)

Saturday, December 15, 2012

08:00-16:00 Registration (G/F, Hong Kong SkyCity Marriott Hotel)

### Meeting Room 1

	<p><b>Session Field: Education I</b></p> <p><b>Session Chair: Prof. Noor-Azniza Ishak</b></p>
08:45-10:15	<p>627 <b>(Ex)Changing Perspectives on Quality Early Childhood Education: The Politics of Reform Initiatives in China and the United States</b> <i>Rebecca S. New &amp; Pei-Ying Wu (University of North Carolina at Chapel Hill, USA)</i></p> <p>135 <b>A Correlation Study on the Effectiveness of Organizational Learning in Hospital Employee: Example from the Hospital Accreditation System</b> <i>Yu-Hua Yan (Tainan Municipal Hospital, Taiwan)</i></p> <p>138 <b>A Snapshot of Teachers' Beliefs about Learner Autonomy in Vietnamese Higher Education</b> <i>Nga Thanh Nguyen, Donna Tangen &amp; Denise Beutel (Queensland University of Technology, Australia)</i></p> <p>330 <b>Emotional Intelligence and Psychographic Profiles of the Potential First Class Students</b> <i>Noor-Azniza Ishak (University Utara Malaysia, Malaysia)</i></p> <p>86 <b>Extended TAM Model: Impact of Convenience on Acceptance and Use of Moodle</b> <i>Hsiao-Hui Hsu (Lunghwa University of Science and Technology, Taiwan)</i> <i>Yu-Ying Chang (National Taiwan University of Science and Technology, Taiwan)</i></p> <p>87 <b>Parental Expectations of International Pre-School Management in Bangkok Metropolis: A Case Study of Mulberry House International Pre-school</b> <i>Panadda Pratoomrat (Srinakharinwirot University, Thailand)</i></p>
10:15 - 10:30	<p><b>Welcome Coffee Break</b></p> <p><b>Group Photography I</b></p>
10:30-12:00	<p><b>Keynote Speech @ Meeting Room 2</b></p> <p><b>Hong Kong 1997–2012</b></p>

	<b>A Report on the HKSAR since the Handover</b> <i>By Victor F. S. Sit</i>
	<b>KEY FEATURES</b> <ul style="list-style-type: none"> <li>• A systematic review of the developments in Hong Kong during the 15 years after the former British colony's return to China</li> <li>• Provides detailed information on various aspects of Hong Kong's development, including the socio-economic situation, constitutional developments, and government structure</li> <li>• Serves as a source of comprehensive data using numerous tables and charts from different government departments and authorities</li> <li>• Analyzes the effects of important past events on the future of Hong Kong</li> </ul>
12:00 - 13:00	<b>Luncheon</b>
	<b>Meeting Room 1</b>
	<b>Session Field: Education II</b> <b>Session Chair: Prof. Val Chapman</b>
13:00-14:30	260 <b>Child Abuse by Teachers in Mainland Chinese Primary and Secondary Schools</b> <i>Xuan Li (University of Cambridge, United Kingdom) &amp; Zaoli Zhang (Northwestern University, United States)</i>
	103 <b>The Roles of Parents and Institution in Students Learning</b> <i>Kan Soh (Albukhary International University, Malaysia)</i>
	108 <b>Enhancing the Employability of Disabled Undergraduates</b> <i>Val Chapman (University of Worcester, United Kingdom)</i> <i>Judith Waterfield (University of Plymouth, United Kingdom)</i>
	113 <b>Policy Issues, Trends and Challenges Facing Aspiring Educational Managers in the Gauteng Province: South Africa</b> <i>Thulani Zengele (University of South Africa, South Africa)</i>
	127 <b>A Review on Mathematical Problem Solving Skills</b> <i>Betsy Guat Poh Lee (The University of Nottingham Malaysia Campus, Malaysia)</i>
14:30-14:45	<b>Afternoon Coffee Break</b>
	<b>Meeting Room 1</b>
	<b>Session Field: Education III</b> <b>Session Chair: Prof. Sunanta Suthithatip</b>
14:45-16:15	148 <b>Collaborative Innovation: Developing and Researching New Arts Practice Through Cross-Institutional Collaboration</b> <i>Susan West &amp; Georgia Pike (Australian National University, Australia)</i>
	155 <b>An Evaluation of a Youth-Led Training on Preventing Unplanned Pregnancy for Nursing Student, Saraburi, Thailand</b> <i>Pourpen Krinara, Siriwan Tumchua &amp; Nunthida Fuangfhung (Saraburi Nursing College, Thailand)</i>

	180	<b>Cognitive-Possession and Social-Process Perspectives of Organizational Learning and Organizational Knowledge: Coherent or 'Neutralistic' Integration in the Education Context?</b> <i>Pooganentren Nagalingam (University of New South Wales, Australia)</i>
	186	<b>The Effects of Free writing Activities on Writing Skill of Matthayom Suksa 1 Students</b> <i>Sunanta Suthithatip (Sriracha School, Thailand)</i>
	207	<b>Research of Accounting Simulation Experiment Teaching Mode for Modern Distance Education</b> <i>Huan Huan Fei (Dalian University of Technology, China)</i>
	616	<b>Distributive Leadership: Hierarchical Hegemonies and Policy Challenges in African Schools</b> <i>Icarbord Tshabangu (University of Namibia, Namibia)</i>

## Schedule for Oral Sessions (Meeting Room 1)

Sunday, December 16, 2012

<b>08:00-16:00 Registration (G/F, Hong Kong SkyCity Marriott Hotel)</b>	
<b>Meeting Room 1</b>	
	<b>Session Field: Education IV</b> <b>Session Chair: Prof. Ranbir Singh Malik</b>
<b>08:45-10:15</b>	215 <b>The Importance of Elementary School Counselor in Indonesia</b> <i>Dian Permatasari (Brawijaya University, Indonesia)</i>
	219 <b>Cloud Computing in the Field of Technical Education in India</b> <i>Dipankar Mishra (Pusa Polytechnic, India)</i>
	537 <b>Revisiting the Occupational Aspirations and Destinations of Anglo-Australian and Chinese-Australian High School Students</b> <i>Ranbir Singh Malik (Universitas Pendidikan Indonesia, Indonesia)</i>
	248 <b>Out of the Box! Cross-Cultural Understanding as Part of English Language Learning in the Globalization Context</b> <i>Wigati Dyah Prasasti (State University of Malang, Indonesia) &amp; I Wayan Suyadnya (Georg-August University Goettingen, Indonesia)</i>
	528 <b>A Framework for an Effective Tutor System in an ODL Institution in South Africa</b> <i>Sello Mokoena (University of South Africa, South Africa)</i>
	244 <b>Detecting Of Differential Functioning of Items and Tests Based on Test for Admission to First Year of Highschool on Bayesian Procedure</b>

	<p><b>in Science and Mathematics Tests</b></p> <p><i>Aweeporn Panthong, Katum Saraburin &amp; Pairatana Wongnam(Burapha University, Thailand)</i></p>
10:15 - 10:30	<p><b>Morning Coffee Break</b></p> <p><b>Group Photography II</b></p>
10:30-12:00	<p><b>Meeting Room 1</b></p> <p><b>Session Field: Education V</b></p> <p><b>Session Chair: Margaret Mun-Yee Cheung</b></p>
	<p>278 <b>Quality of Cross Border Higher Education in Sri Lanka: an Investigation into the Quality of the Foreign Degree Awarding Institutes of Sri Lanka</b></p> <p><i>Mihirini Wickramasinghe, John Hope &amp; Eve Coxon(University of Auckland, New Zealand)</i></p>
	<p>285 <b>Do You Hear the Broken Hearts? An Applied Theatre Doctoral Research Plan on the Hong Kong Chinese Cancer Caregiving Experience</b></p> <p><i>Margaret Mun-Yee Cheung (Queensland University of Technology, Australia)</i></p>
	<p>307 <b>Item Length and Linguistic Mantel-Haenszel Differential Item Functioning in Elementary Algebra Test</b></p> <p><i>Reymond Anthony Maramot Quan (Philippine Normal University, Philippines)</i></p>
	<p>367 <b>Instruction Management of Business English Course at Thai-University Level Prior to the Upcoming ASEAN Economic Community</b></p> <p><i>Krich Rajprasit &amp; Panadda Pratoomrat (Srinakharinwirot University, Thailand)</i></p>
	<p>116 <b>Development of the Program Evaluation Scale for the Pedagogic Formation Certificate Program Carried Out in Turkey</b></p> <p><i>Oktay Cem Adiguzel (Anadolu University, Turkey)</i></p>
	<p>96 <b>Shapers of Their Destiny: A History of The Education of Cuban Children in the United States since 1959</b></p> <p><i>Guadalupe San Miguel Jr (University of Houston, USA)</i></p>
12:00 - 13:00	<p><b>Luncheon</b></p>
13:00-14:30	<p><b>Meeting Room 1</b></p> <p><b>Session Field: Education VI</b></p> <p><b>Session Chair: Professor Maricris B. Acido</b></p>
	<p>379 <b>Gender Analysis of Critical Thinking Skills Instrument among University Putra Malaysia Undergraduate Students</b></p> <p><i>Ibrahim Nazem ghadi (University Putra Malaysia, Malaysia)</i></p>

	<p>398 <b>Quality of Life, Teacher Burnout and Job Stress among Philippine Science High School Teachers</b> <i>Kristoffer Caseres Loquias, Krisha Anne Bonda, Maria Luisa Gonzales Manliclic, Analiza Garvida, Giandelu Carissa, Echiverri-Santos, Ardeth Marcelino, Jo-Ann Zapanta &amp; Marie Grace Gomez (University of the Philippines, Philippines)</i></p> <p>237 <b>The Role of PhD in a University Career?</b> <i>Luisa Signor &amp; Bruce Calway (Swinburne University of Technology, Australia)</i></p> <p>389 <b>Formative Assessment Techniques: Innovative Assessment Methodologies and Tools for Raising the Achievement of Low Ability Students in Cross River State, Nigeria, West Africa</b> <i>Clement Ogholo Ukpok (University of Calabar, Nigeria)</i></p> <p>183 <b>Elements of an Effective Radio-Based Literacy Program: Towards a Community-Responsive Pre-Service Teacher Education</b> <i>Maricris B. Acid, Michael Arthus Go Muega &amp; Maria Vanessa Lusung Oyzon (University of the Philippines, Diliman, Philippines)</i></p> <p>266 <b>From the Three Rs to the Three Cs: A Framework for Environmental Sustainability and Social Justice in Education</b> <i>Shaun Chen (University of Toronto, Canada)</i></p>
14:30-14:45	<b>Afternoon Coffee Break</b>
14:45-16:15	<b>Meeting Room 1</b>
	<b>Session Field: Society I</b>
	<b>Session Chair: Voon Chin Phua</b>
	<p>612 <b>The Enigma of Hong Kong's Mental Health Policy in the Colonial Era and under China's Sovereignty</b> <i>Anita Chi Kwan Lee (Tung Wah College, Hong Kong)</i></p> <p>46 <b>Searching for a Place Called Home: The Expat and National Dilemma in the UAE (United Arab Emirates)</b> <i>Susan Kay Smith (American University of Sharjah, United Arab Emirates)</i></p> <p>133 <b>Russia-China Intercultural Policy as the Strategy of Transbaikal Region and Dongbei Region Co-Development in the Sociocultural Space of the Borderland</b> <i>Valentina Sergeevna Morozova (Transbaikal State University, Russia)</i></p>
	<p>142 <b>Trend Report: Ethnic Cultural Tourism in Singapore</b> <i>Voon Chin Phua (Gettysburg College, USA)</i></p> <p>590 <b>Promising Collision</b> <i>Laura Blythe Liu (Beijing Normal University, China)</i></p>



## Schedule for Oral Sessions (Meeting Room 2)

Saturday, December 15, 2012

<b>08:00-16:00 Registration (G/F, Hong Kong SkyCity Marriott Hotel)</b>	
<b>Meeting Room 2</b>	
	<p><b>Session Field: Society II</b>  <b>Session Chair: Jong Serl Chun</b></p>
<b>08:45-10:15</b>	<p>175 <b>Effectiveness of Smoking Cessation Program for Male Adolescents in South Korea</b>  <i>Jong Serl Chun, Kyung Won Baek, Sun Yung Choi, Won Bin Her &amp; Mi Jang (Ewha Womans University, South Korea)</i></p> <p>547 <b>Thinking of a Post Democratic Governance : an Indian Perspective</b>  <i>Chandra Bhushan Prasad Shriwastava (Discovery Learning Solutions, India)</i></p> <p>205 <b>The Causal Relationship Model of Social Factors Affecting Local Culture</b>  <i>Natkrita Ngammeerith (Institute of Physical Education Anghong, Thailand), Pairatana Wongnam (Faculty of Education, Thailand) &amp; Sompoch Anegasukha (Faculty of Education, Thailand)</i></p> <p>217 <b>Cultural Change, Agency and “Intermittently Reflexive” Action</b>  <i>Marek Skovajsa (Charles University, Czech Republic)</i></p> <p>223 <b>Exploratory Study on Factors Influencing Job Satisfaction of Aged Worker with Disability</b>  <i>Mee Hye Kim, Yong Hee Kwon, Hye Youn Jun &amp; Jung Hwa Moon (Ewha Womans University, South Korea)</i></p> <p>226 <b>Study on the Factors Influencing Preparation of Old Age of Disabled Person in Babyboomers</b>  <i>MeeHye Kim, HyeYoun Jun, JungHwa Moon &amp; EunKyung Shin (Ewha Womans University, South Korea)</i></p> <p>365 <b>The Impact of Cultural And Family Beliefs on Coping with Children with Illnesses</b>  <i>Miriam Sang-Ah Park (Monash University, Malaysia) &amp; Alvin Lai Oon Ng (Universiti Kebangsaan Malaysia)</i></p>
<b>10:15 - 10:30</b>	<p><b>Welcome Coffee Break</b>  <b>Group Photography I</b></p>
<b>10:30-12:00</b>	<p><b>Keynote Speech @ Meeting Room 2</b>  <b>Hong Kong 1997–2012</b>  <b>A Report on the HKSAR since the Handover</b>  <i>By Victor F. S. Sit</i></p>

	<p><b>KEY FEATURES</b></p> <ul style="list-style-type: none"> <li>• A systematic review of the developments in Hong Kong during the 15 years after the former British colony's return to China</li> <li>• Provides detailed information on various aspects of Hong Kong's development, including the socio-economic situation, constitutional developments, and government structure</li> <li>• Serves as a source of comprehensive data using numerous tables and charts from different government departments and authorities</li> <li>• Analyzes the effects of important past events on the future of Hong Kong</li> </ul>
12:00 - 13:00	<b>Luncheon</b>
13:00-14:30	<b>Meeting Room 2</b>
	<b>Session Field: Psychology I</b>
	<b>Session Chair: Marie Grace Avelino Gomez</b>
	306 <b>The Influence of Mothering on Adolescent's Delinquency</b> <i>Mahshid Manouchehri (University Putra Malaysia, Malaysia)</i>
	81 <b>The Interethnic Perception Peculiarities of the Other-Person Appearance</b> <i>Maryna Surudzhii (Kyiv National University, Ukraine)</i>
	92 <b>Pasrah (Surrender) and Sabar (Patient) Among Indonesia Etnichs (Javanese, Sundanese, Betawi) Through Disaster: An Indigeneous Psychological Analysis</b> <i>Handrix Chrisharyanto &amp; Fatchiah Ekowaty Kertamuda (University of Paramadina, Indonesia)</i>
97 <b>Human Learning and Cognition: the Relationship between Prepositions and Cognitive Processes</b> <i>Chun Chun Lai (The University of Hong Kong, Hong Kong)</i>	
151 <b>Concept of Posttraumatic Growth of People Affected Merapi Eruption in 2010 : A Qualitative Study to People of Krinjing Village, Indonesia</b> <i>Mellia Christia (Universitas Indonesia, Indonesia) &amp; Arnfinn Helleve (University of Oslo, Indonesia)</i>	
156 <b>Moral Reasoning of Filipino Children in Conflict with the Law</b> <i>Marie Grace Avelino Gomez (College of Education, University of the Philippines-Diliman, Philippines)</i>	
14:30-14:45	<b>Afternoon Coffee Break</b>
14:45-16:15	<b>Meeting Room 2</b>
	<b>Session Field: Psychology II</b>
	<b>Session Chair: Anna Toom</b>
	166 <b>The Influence of Behavior Modification Training Towards the Enhancement of Competition in Dealing with Pre-school Student's</b>

	<p><b>Troubled Behavior among Indonesian Play Group and Kindergarten Teachers</b></p> <p><i>Ruth Vanny Feronica Panggabean &amp; Herdina Indrijati (Airlangga University, Indonesia)</i></p>
169	<p><b>Integrative Education for the Twenty First Century: Teaching Psychology Using Literature and Informational Technologies</b></p> <p><i>Anna Toom (Touro College, USA)</i></p>
192	<p><b>A Study on Yonisomanasikarn Thinking of First Year Students</b></p> <p><i>Varangkana Somanandana, Surin Suthithatip &amp; Doldao Purananon (Burapa University, Thailand)</i></p>
196	<p><b>A study of Coping Behaviors in Attempted Suicidal Risk</b></p> <p><i>Wanpen Wanaporn &amp; Surin Suthithatip (Burapa University, Thailand)</i></p>
239	<p><b>Exploring the Use of Vignettes to Facilitate and Assess Learning</b></p> <p><i>Susanna Wai Ching Lai-Yeung (The Open University of Hong Kong, Hong Kong)</i></p>

## Schedule for Oral Sessions (Meeting Room 2)

**Sunday, December 16, 2012**

<p><b>08:00-16:00 Registration (G/F, Hong Kong SkyCity Marriott Hotel)</b></p>	
<p><b>Meeting Room 2</b></p>	
	<p><b>Session Field: Society III</b>  <b>Session Chair: Orathai Piayura</b></p>
<p><b>08:45-10:15</b></p>	<p>349 <b>Gender, Thai Sexual Culture and the Sexuality Classroom</b>  <i>Orathai Piayura (Khon Kaen University, Thailand)</i></p>
	<p>250 <b>Rethinking Authenticity: the Politics of Making and Unmaking Boundaries in Producing Localities</b>  <i>I Wayan Suyadnya (Brawijaya University, Indonesia)</i></p>
	<p>287 <b>Nepal in Between Contentious Politics</b>  <i>Purna Bahadur Karki (Tokyo University of Foreign Studies, Japan)</i></p>
	<p>312 <b>The Effects of the Environmental Factors on Subjective Health Conditions in South Korea</b>  <i>Haklyoung Kim &amp; Ok Kyung Yang (Ewha Womans University, South Korea)</i></p>
	<p>401 <b>Education is Potential of Social Development</b>  <i>Mahabbat Ospanbaeva Pernebaevna, Klara Buzaubakova, Zumagul Taszurekoya &amp; Klara Smatova (Taraz State Pedagogical Institute, Kazakhstan)</i></p>
	<p>363 <b>Thai Wisdom in Rural Community, Southern Thailand</b>  <i>Amavasee Ampansirirat &amp; Kansiri Janjaroen (College of Nursing Songkhla, Thailand)</i></p>
<p><b>10:15 - 10:30</b></p>	<p><b>Morning Coffee Break</b></p>

	<b>Group Photography II</b>
	<b>Meeting Room 2</b>
	<b>Session Field: Psychology III</b> <b>Session Chair: Weifen Lin</b>
<b>10:30-12:00</b>	198 <b>The Posttraumatic Growth of University Students</b> <i>Aree Kantitammakool, Surin Suthithatip &amp; Dolddao Purananon (Burapha University, Thailand)</i>
	209 <b>A Psychosocial Attachment Study of Depression in Taiwanese women</b> <i>Lun Chi Chang (Royal Holloway, University of London) &amp; Antonia Bifulco (Kingston University)</i>
	210 <b>The Relationships of Teachers', Parents' and Peers' Autonomy Support and Students' Engagement in Mathematics</b> <i>Linda Primana (Universitas Indonesia, Indonesia)</i>
	218 <b>The Creative Process During Composing in Classical and Jazz Professional Piano Musicians</b> <i>Anindya Dewi Paramita (Universitas Indonesia, Indonesia)</i>
	236 <b>Interpersonal Forgiveness Intervention on Forgiveness and Emotional Regulation for Taiwanese College Students</b> <i>Weifen Lin (National Hsinchu University of Education, Taiwan)</i>
<b>12:00 - 13:00</b>	<b>Luncheon</b>
	<b>Meeting Room 1</b>
	<b>Session Field: Psychology IV</b> <b>Session Chair: Julia Suleeman</b>
<b>13:00-14:30</b>	249 <b>Reconstructing Middle Age Javanese Mature Woman Happiness Through Social Representation Theory</b> <i>Nur Hasanah (Brawijaya University, Indonesia)</i>
	251 <b>Resilience of the Javanese Survivors from Merapi Mountain</b> <i>Julia Suleeman &amp; Guritnaningsih Amir Santoso (Universitas Indonesia, Indonesia)</i>
	255 <b>Protective Factors in Resilience of Aceh Tsunami Survivors</b> <i>Guritnaningsih Amir Santoso &amp; Julia Suleeman (Universitas Indonesia, Indonesia)</i>
	276 <b>Students Self Concept and Social Support to Enhance Students Success</b> <i>Wuri Prasetyawati, Miranda Diponegoro Zarfiel (Universitas Indonesia, Indonesia)</i>
<b>14:30-14:45</b>	<b>Afternoon Coffee Break</b>
	<b>Meeting Room 1</b>
	<b>Session Field: Psychology V</b> <b>Session Chair: Prof. Yang Lee</b>
<b>14:45-16:15</b>	302 <b>Phonological Processes Elicited by Parts of Chinese Character</b> <i>Yang Lee, Jeongran Noh (Gyeongsang National University, South Korea)</i>
	335 <b>Developmental Types of Religious Attitude in Life</b> <i>Jeongkuk Cho &amp; Yang Lee (Gyeongsang National University, South Korea)</i>
	341 <b>Perceptions of Research Activity Among Clinical Psychologists in Singapore</b> <i>Nenna Ndukwe, Samuel Chng Chong Wei &amp; Jonathan Raphacis Chua (James Cook University)</i>

*Singapore, Singapore)*

519 **Personality Traits and Cultural Adjustment of The Foreign Students of Southwestern University**

*Ma. Kathleen Campos Tiglao (Southwestern University, Philippines)*

184 **Personality Traits and Cultural Adjustment of the Foreign Students of Southwestern University**

*Imelda Sindo Lagrito & Ma. Kathleen Campos Tiglao (Southwestern University, Philippines)*

## Schedule for Poster Sessions (Meeting Room 3)

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	195 <b>Age Differences in Risk-Taking: The Role of Anticipated Regret</b> <i>Jia Gai (The Chinese University of Hong Kong, Hong Kong)</i>
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	141 <b>Political Dialogue As A Kind Of Dialogues Cultures In The Globalization (For Example, The Shanghai Cooperation Organization)</b> <i>Olga Borisenko (Transbaikal State University, Russia)</i>
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	134 <b>Exploration on the Work Stress of Coding Specialists from the Promotion of New Medical Policies: Using the Introduction of the ICD-10-CM/PCS for the Classification of Diseases as An Example</b> <i>Yu-Hua Yan (Tainan Municipal Hospital, Taiwan)</i> 160 <b>Exploration on Studying Effect of Nursing Aides Training Program- the Examples of Home Health Care Model in Taiwan</b> <i>Yu-Hua Yan (Tainan Municipal Hospital, Taiwan)</i> 200 <b>Models and Measurements of Coping Strategies in Parents of Children with Developmental Disabilities</b> <i>Tzu-Hua Ho (University of California, Riverside, USA)</i>
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	227 <b>The Teacher Workforce Alienation Preliminary-a Retired High Vocational Teacher Teaching Career Under Review</b> <i>Weifen Lin &amp; Yi-Ching Li (National Hsinchu University Of Education, Taiwan)</i>
	258 <b>The Relationship Between Humor Style of Counselor and Burnout</b> <i>Minji Yu (Chungbuk National University, South Korea)</i>
	279 <b>Effectiveness of the Satir Model Individual Counseling on Anxiety</b> <i>Jaruwan Kansri &amp; Napat Teianukool (Boromarajonani College of Nursing Chainat, Thailand)</i>
<b>Session Field: Society II</b>	

14:30-16:15	179	<b>Adolescent Suicide Triggered by Problems at School in Korea</b> <i>Ick-Joong Chung, Jae-yeon Park, Ji- Yeon Lee, Seon-Kyeong Ahn, Ji-Sun Kim &amp; Eun-Jeong Lee (Ewha Womans University, South Korea)</i>
	221	<b>The Influence of Elderly Workers' Labor States on Their Quality of Life;Focusing on Social Network as an Influence Factor</b> <i>PyungHwa Jung, HyeYoun Jun, Yong Hee Kwon &amp; WonJi Lee (Ewha Womans University, South Korea)</i>
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	187	<b>Development of an Evaluation Model for Korean National Vocational Education System</b> <i>HeaJung Chang &amp; JiHyun Shim (Korean Research Institute for Vocational Education and Training, South Korea)</i>
	188	<b>Critical Review on Human Capital Theory and Its Applicability on Vocational Education</b> <i>JiHyun Shim &amp; HeaJung Chang (Korean Research Institute for Vocational Education and Training, South Korea)</i>
	204	<b>The Exploration of Collaborative Learning Mode Based on Network Environment in Modern Distance Education</b> <i>Xiaoyu Man, Yu Mei &amp; Han Yan (Dalian University of Technology, China)</i>
10:00-12:00	233	<b>The Study of Correlation between the Levels of Exercise and Depression among University Students</b> <i>Ping Ting Hsieh, Ya-Hsing Yeh, I-Chun Tai, San-Wei Chou, Ming-Chieh Lin &amp; Li-Ting Lee (John Tung Foundation, Taiwan)</i>
	95	<b>Effects of Modified ACT Program for the Psychiatric Rehabilitation of People with Severe Mental Illness</b> <i>Moonsook Yoo, Young Hee Kim, Myung Sun Hyun, Jin Hee Park &amp; KyungHee Ha (Ajou University, South Korea)</i>
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	<p>230 <b>Predictive factors for school adjustment for Children in Kinship Foster Care</b> <i>Choong Rai Nho, Soo Min Cho, Jung Hwa Kim &amp; Hye Jung Shin (Ewha womans University, South Korea)</i></p> <p>234 <b>Issues Related to Development and Validation of Korean Cultural Competency Scale</b> <i>Soomin Cho, Choong Rai Nho, Jung Hwa Kim &amp; Hye Jung Shin(Ewha womans University, South Korea)</i></p>
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	<p>242 <b>Why Are They Outstanding? Evidence from TIMSS 2007</b> <i>Jenjang Sheu(National Chung Hsing University, Taiwan)</i></p> <p>253 <b>Facilitating Self-Directed Learning Using Agile Methods</b> <i>Yuk-Hei Lam (TAFE(Technical And Further Education) , Australia)</i></p> <p>256 <b>Understanding Developmental Aspects of Discriminative Perception of English Vowel &amp; Consonant Minimal Pairs</b> <i>Hirokatsu Kawashima(Nagasaki University of Foreign Studies, Japan)</i></p>
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14:30-16:15	<p>351 <b>Can You Smell Colour?</b> <i>Hannah Kim &amp; Kwanghee Han (Yonsei University, South Korea)</i></p> <p>375 <b>The Mediating Effect of Perspective-Taking on the Relationship between Response Style and Forgiveness</b> <i>Shinhwa Suh, Yoonyoung Kim, Seung Hyuk Choi, Sangyeon Yoon &amp; Taekyun Hur(Korea Univ., South Korea)</i></p> <p>377 <b>The Impacts of Likability of Anchor Provider on Anchoring Effects</b> <i>Seung Hyuk Choi, Heejeong Park, Sangyeon Yoon, Shinhwa Suh &amp; Taekyun Hur(Korea Univ., South Korea)</i></p> <p>385 <b>Basic Values Survey: Results of a Confirmatory Factor Analysis with Portuguese Youths Living in Foster Care Institutions</b> <i>Cátia Marques, Ana Daniela Silva, Maria Céu Taveira, Ana Isabel Mota &amp; Valdiney Gouveia (University of Minho, Portugal)</i></p> <p>585 <b>The Implicit Methods for the Study of Tolerance</b> <i>Maria Bambulyaka (Daugavpils University, Latvia)</i></p> <p>117 <b>Organizational Culture and Its Effects on Job Satisfaction and Job Commitment of University Teachers</b> <i>Shazia Hasan &amp; Huma Ali (COMSATS Institute of Information technology Lahore, Pakistan)</i></p>
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277 **Experiences of Thai Elderly Person's Self-Care Performances in Eating Behavior**

*Hathairat Budsayapanpong (Boromarajonani College Of Nursing, Chainat, Thailand)*

**Session Field: Education IV**

275 **The Effects of Emotional Education Activities with Famous Paintings on Young Childrens Emotional Intelligence and Creativity**

*Young Ok Kim (Chonnam National University, South Korea) & Gyurim Lee (Mokwon Univ., South Korea)*

297 **The Effectiveness of Cognitive Behavioural Interventions in Reducing Stress among Nurses Working in Hospitals: A Systematic Review Protocol**

*Annie Lai Fong Mok, Janita Pak Chun Chau & Wan Yim Ip (The Chinese University of Hong Kong, Hong Kong)*

382 **Perceived Social Competence in Career: Results of a Confirmatory Analysis with Portuguese Adolescents**

*Ana Isabel Bastos Mota, Joana Carneiro Pinto, Maria do Céu Taveira, Ana Daniela Silva & Cátia Marques (University of Minho, Portugal)*

553 **Capability of Foundation Engineering Students to Provide Complete Solution for Computational Physics Question**

*Sing Poh Toh (The University of Nottingham Malaysia Campus, Malaysia)*

# Program-Oral Sessions

## Education I

08:45-10:15, December 15, 2012 (Room 1)

**Session Chair:** *Prof. Noor-Azniza Ishak*

**627: (Ex) Changing Perspectives on Quality Early Childhood Education:  
The Politics of Reform Initiatives in China and the United States**

*Rebecca S. New*

*University of North Carolina at  
Chapel Hill*

*Pei Ying Wu*

*University of North Carolina at  
Chapel Hill*

**135: A Correlation Study on the Effectiveness of Organizational Learning in  
Hospital Employee: Example from the Hospital Accreditation System**

*Yu Hua Yan*

*Tainan Municipal Hospital*

**138: A Snapshot of Teachers' Beliefs about Learner Autonomy in Vietnamese  
Higher Education**

*Nga Thanh Nguyen*

*Queensland University of Technology*

*Donna Tangen*

*Queensland University of Technology*

*Denise Beutel*

*Queensland University of Technology*

**330: Emotional Intelligence and Psychographic Profiles of the Potential First  
Class Students**

*Noor Azniza Ishak*

*University Utara Malaysia*

**86: Extended TAM Model: Impact of Convenience on Acceptance and Use of  
Moodle**

*Hsiao Hui Hsu*

*Lunghwa University of Science and  
Technology*

*Yu Ying Chang*

*National Taiwan University of  
Science and Technology*

**87: Parental Expectations of International Pre-School Management in Bangkok  
Metropolis: A Case Study of Mulberry House International Pre-School**  
*Panadda Pratoomrat* *Srinakharinwirot University*

## **(Ex)Changing Perspectives on Quality Early Childhood Education: The Politics of Reform Initiatives in China and the United States**

**Rebecca S. New, Pei-Ying Wu**

**University of North Carolina at Chapel Hill, Chapel Hill, North Carolina**

### **ABSTRACT**

This paper presents a comparative analysis of changes in early childhood education (ECE) in China and the U.S. ECE is a central issue for national and international debate, as evidenced by attention from the O.E.C.D., the World Bank, UNESCO, and the U.S. presidential campaign. In spite of long-standing cultural differences, China and the U.S. are emulating some ECE practices from each country. These ECE reforms have less to do with children and more with their future contributions to rapidly changing societies in an increasingly competitive global economy.

Keywords: Early Childhood Education, Politics, Educational Reform

### **1. INTRODUCTION**

This paper presents a comparative and conceptual analysis of major changes in early childhood education in China and the U.S. that have taken place over the past three decades. This analysis begins by highlighting research on the cultural roots of early education as they have helped to sustain, over time, nations' interpretations of children and their learning potentials. The discussion briefly outlines key historic periods in U.S. and China's diverse interpretations of an early childhood education as backdrop to a discussion of more contemporary forces for change, including the growing roles of global competitiveness and global exchanges as they have contributed to new interpretations of a "high quality" early education. The paper concludes by considering the risks and potentials of increasingly hybrid and imposed early childhood pedagogies in a rapidly changing and globalized.

### **2. CULTURES OF EDUCATION**

Cross-cultural research on the period of early childhood has a long history among U.S. anthropologists and cultural psychologists (LeVine & New, 2008; Whiting, Whiting, & Longabaugh, 1975), and much of this work has focused on the cultural nature of parental beliefs and child-rearing strategies about children's development. Over the past several decades, scholars trained in this tradition have widened the focus to include the study of cultural values as embedded in policy and instructional decisions about age-appropriate curriculum goals and instructional practices (Tobin, Wu, & Davidson, 1989). Conceptions of play as it supports other cultural priorities help illustrate the cultural variability in high quality early childhood programs in Scandinavia, Italy and Japan.

#### **2.1 Outdoor play is a child's right**

High quality early childhood programs in Norway and Sweden are characterized by ample opportunities for children to play, both inside and out, with clear priority on

time outside, where children are free to climb trees, scale large boulders, and continue playing even when it is raining. Indeed, most Scandinavian children have extra clothing for adverse weather stored in their school lockers. These characteristics reflect more than a belief in the importance of play to children's early development and a commitment to children's rights to play. The emphasis on adventurous outdoor play also conveys a national love of the environment and appreciation of outdoor exercise. There is widespread consensus among early childhood educators and families on the importance of insuring that young children grow up to share these cultural values (New, 1999).

## **2.2 Play as a context for building relationships**

Italian early childhood educators would be shocked at the idea of allowing children to play in the rain, although there is a shared belief in the importance of play, especially play with peers. In fact, the promotion of friendships--learning how to *stare insieme* [be together]—is the number one goal identified by Italian teachers and parents when asked to describe the aims of infant-toddler care and *servizi dell'infanzia* [early childhood services] (New, Mallory, & Mantovani, 2000). While Italian educators acknowledge play's contributions to children's intellectual development, equal if not greater priority is given to play's role in promoting relationships and the skills essential to living in a community. Teachers sometimes purposefully arrange play settings that require children to engage in debate, negotiation and conflict resolution—characteristics that sometimes lead to project work such as that associated with Reggio Emilia's *progettazione*. Purportedly individualized notebooks frequently include documentation of children's developing relationships with other children, including infants and toddlers or children in the 3-5 age group [*servizi dell'infanzia*] (Gandini & Edwards, 2001).

## **2.3 Play as a means of developing self-discipline and empathy**

Japanese early childhood programs also promote children's relationships and problem-solving skills through play, although in ways consistent with values of the larger culture. Outdoor play often takes the form of large group exercises, both to emphasize the importance of physical well-being and also the sense of being a part of a larger community. Free play might well involve caring and playing with a younger child. Inside the classroom, children as young as four-years-old are encouraged to spend time on origami paper folding, with the aim of supporting the development of persistence. Children are also expected to take on leadership roles among peers, as observed in pre-school and primary classes as children are left to their own devices to resolve conflicts without teachers' assistance (Lewis, 1995; Tobin et al., 1989).

These and other studies of cultural differences in early childhood education make clear that, as is the case with parental belief systems and cultural practices, “the rationales for and approaches to early care and education are as varied as the countries themselves” (Lubeck, 2001, p. 214). Cultures are not static, however. They grow and change, as do children, in response to new demands and opportunities. The U.S. and China are compelling examples of the evolution of early childhood education as each nation responds to new knowledge, new resources, and new priorities.

## **3. U.S. Traditions in Early Childhood Education**

The history of U.S. early childhood education reveals a chronic resistance at the national level to take on responsibility for young children's early care and education, except in cases critical to the needs of the larger society. During the 19th century Industrial Revolution, philanthropic and social activists focused their attention on children of poor families, many of them immigrants. Our-of-home charity programs

were established to provide them with basic hygiene and socialization so that they might grow up to be “moral and productive” members of American society (Bloch, 1987). Children of middle-income families were viewed as well enough at home until they enrolled in primary schools, a perspective that continues to emerge in debates 100 years later about “universal” early childhood services. As proponents of Child Study—eventually renamed as the field of child development—gained new insights into children’s developmental processes, teachers took on the role of sharing this knowledge with children’s families, in the process contributing to an image of early childhood professionals who were presumably more knowledgeable about children than were their parents (Beatty, 1995). It was within this context that early advocates—those who could afford the transatlantic trip—traveled to England and Western Europe, where they learned about the British Infant School, Froebel’s kindergarten, and Montessori’s “methods.” They brought these ideas back to the U.S. where they were met with popular acclaim, even as they also generated new debates about the purposes and means of an early education (New, 2005).

These early characteristics of an American early childhood—as intervention for low-income and minority children, a professional reliance on developmental science to determine “appropriate” and effective teaching practices, and a willingness to learn from other nations’ ideas—have characterized U.S. professional and policy debates for most of the 20th century. Over the next decades, early childhood remained as primarily private efforts across the U.S. As research on child development became more prominent, so, too, did concerns about supporting children’s early care and education. Yet the national government did not intervene unless there was a critical need, such as the need for child care so that women could work during World War II (Beatty, 1995).

The U.S. Civil Rights Movement generated a new need for government intervention, and co-occurred with new understandings on the critical importance of children’s early development to subsequent school achievement. So in 1965 then-president Lyndon Johnson launched Head Start, a program of comprehensive services for children and their poor families, as a key feature of his War on Poverty (Valentine & Zigler, 1979). Head Start remains the only nationally funded program, and never sufficient for all of the children eligible for services. Competing perspectives based on diverse theories about how children learn lead to new research on the benefits of different curriculum approaches to children’s development and educational outcomes (Consortium for Longitudinal Studies, 1983). Over the next two decades, efforts to improve both the availability and quality of early childhood services to middle-class children continued, encouraged in part by what educators were learning about Japanese successes in mathematics instruction, New Zealand’s approach to early reading instruction, and Piagetian interpretations of a play-based and constructivist early education. As the field of early childhood gained in numbers and confidence, efforts by elementary school leaders to “push down” were met with the publication of NAEYC’s Guidelines for Developmentally Appropriate Practices for Programs Serving Children Birth through Age Eight (Bredekamp, 1987), a best-selling document that was soon translated and distributed around the world.

As early childhood educators relished their success in marshaling the cultural capital of developmental science to support their interpretations of a play-based and child-initiated curriculum, new threats to the status quo arrived, albeit from two different directions. The first was the introduction of Reggio Emilia’s approach to the development of children’s collaborative and creative potentials through an emphasis on symbolic languages and provocative environments created both

fascination and consternation (New, 1990). Reggio Emilia's challenge to American notions of "developmentally appropriate practices" came in the form of presenting not only new images of children, but also new interpretations of the teachers' and parents' roles in early education. As thousands of U.S. early educators traveled to the Italian city to see for themselves, some aspects of the "Reggio Emilia Approach" were appropriated by U.S. educators. Those features that resonated most closely with U.S. goals and educators' beliefs included the importance of promoting children's creative and critical thinking, greater and more reciprocal relationships with families, and teachers' abilities to learn from the children they were trying to teach (Edwards, Gandini, & Forman, 1993). Examples of Reggio Emilia's influence can be found in early childhood textbooks, revisions of DAP guidelines (Bredekamp & Copple, 1997, 2009), and classrooms in across the U.S.

Within this context of heightened interest in the potentials of high quality early childhood education, new and more convincing depictions emerged of the vulnerability of children's early development. Thanks in great part to advances of developmental and neurological sciences in demonstrating the rapid and critical brain growth (Gallagher & Bundy, 2007) that takes place in the early years; a heightened sense of urgency began to characterize the national discourse about the role of early childhood classrooms in preparing young children for more successful school experiences. New emphases on children's early language development and emergent literacy and mathematics began to be standard features of early care and education programs. This growing concern about children's early experiences as preparation for school helped to advance the push for universal preschool.

Public and private efforts to generate support at the state level for universal pre-school (Bushouse, 2009) was both supported and challenged by the politics of the No Child Left Behind Act (NCLB, 2002), first enacted in 2001 and repeatedly modified during the tenure of subsequent presidents, including the Obama administration. The impetus of U.S. reform initiatives include a growing press for accountability expressed in the No Child Left Behind Act (NCLB, 2002). This generated new pressures on teachers of young children to reduce time for play in favor of increased time spent on isolated skill development related to mathematics and literacy. In fact, some teachers and researchers have begun to speak of "playful learning" to make it more likely that school administrators and parents will allow play in classrooms increasingly designed as preparation for formal schooling. Preschool is now increasingly described as essential to the goal of improved school achievement in subsequent years (Barnett, 2011; Zigler, Gilliam, & Barnett, 2011).

Ironically, as U.S. educators move away from play-based curricula to greater emphasis on early literacy and mathematics, educators in China are also being asked to change their traditional ways of teaching, in line with new goals of an early childhood education.

#### **4. Early Childhood in China**

Chinese history is thousands of years old and the intellectual history of the Chinese view of childhood is complex, and therefore not possible to outline given the limits of this paper. What is critical to acknowledge are cultural differences associated with the child's and parents' responsibilities for his/her learning. Culturally, the word "child"-haizi- in Chinese has different meanings, the most common of which is the early and incomplete stage of life (Hsiung, 2000). In addition to biological

incompetency, early Han Confucian emphasized the undeveloped nature of a child's moral and intellectual abilities. This image of the child underscores the importance of early instruction and education.

The other meaning of the word "child" represents the role as a child in a family or society (Hsiung, 2000), a role that doesn't change as the child becomes a man. In the family and social structure, children are lower in the power hierarchy and expected to obey and respect their parents and community elders. Children are expected to "practice" filial piety by "cheerfully [providing] financial support to aged parents, [producing] offspring to carry on ancestral sacrifices, and [preserving] and [bringing] honor (through public recognition) to the good name of the family" obligations that continue even after the death of parents. Since young children cannot perform most of the duties, the Chinese view is that they need to be educated at a very young age in order to develop feelings of affection for their parents, which is seen as a virtue of benevolence (Kinney, 1995, p. 34). This long history of ideas about children and families has contributed to a Chinese "learning model" that specifies particular virtues that children must develop in order to be good learners such as determination, perseverance, concentration, and humility. Quiet focused learning is more important than having fun and verbal expression (Li, Holloway, & Bempechat, 2008)

This learning model can be found throughout China's history of early education. Although informal programs for children can be traced back many years, the first programmatic regulations were established in 1952. These early childhood services were intended to promote children's physical and mental development and also to relieve the burden of child care from mothers (Zhou, 2007, p. 971). These values and interpretations of childhood have been sustained even as China has undergone major changes in other ways.

The Cultural Revolution interrupted this tradition of early education and represents the most significant contemporary political change in Chinese society. From 1966 until 1978, Mao and those loyal to him worked to eliminate the practices and removal of evidence of traditional Chinese culture. In order to bring order out of the ensuing chaos, following the death of Mao in 1976, the Chinese government initiated a new policy of "Reform and Opening-up" as a strategy to restore the Chinese traditions to the benefit of the whole societal system. Early childhood education was a part of this new agenda. In 1978, Departments of Early Education began to function again, initiated at the central government and soon followed by provincial and local governments. This top-down leadership, a typical management style in China for centuries, helped to restore kindergarten operations for three- to five-year old children. After establishing competent leadership, the government turned its attention to the improvement of mechanism of management system.

Within this context, a series of government regulations concerning young children's education were passed. The first one, titled "Urban Kindergarten Provisional Regulation" (Zhou, 2007, p. 980), was issued in 1979 and defined the principles for early education development, goals, content, and management system. This official document was the first government regulation that recognized children's play as a fundamental activity and an important means for early learning (Zhou, 2007). In 1981, the first national curriculum standard was issued ("Kindergarten Education Guidelines (provisional),") and defined educational goals, children's developmental characteristics, curriculum areas, learning objectives, and teaching strategies (Zhou, 2007, p. 980). Beginning in 1981, more regulations were passed on hygiene and



health, group size and staffing, architectural design, and rural education. To control and monitor the quality of early education, in 1989 the Ministry of Education issued the initial version “Kindergarten Operation Regulation” and finalized the regulation in 1996. This regulation defines kindergarten responsibility, management and supervision principles, legal accountability, and evaluation criterion (Yang, 2008). These are but some of the ways in which Chinese leaders have directed increasing attention to the education of young children (Zhengao, 1993).

The 21st century has seen more and more dramatic changes in a Chinese early childhood education, thanks in part to increased interest in and scholarly study of Western theories, policies, and early childhood practices. Evidence of China’s interest in early childhood curriculum models imported from the West is found in professional references to such educational programs and instructional strategies as Bank Street, Montessori, Direct Instruction, High/Scope Curriculum, Project Approach, Reggio Emilia –all commonly found in U.S. early childhood classrooms, as well as the “Soviet Early Knowledge Approach...” (Pang, 2009, p. 149). These Western models are not only in the research literature – they are also in many Chinese kindergartens. The influence of Western theories of early learning and development can also be found in China’s government documents.

There has been a dramatic increase in laws and regulatory documents passed within the past decade (Hsueh & Tobin, 2003). In 2001, the Ministry of Education issued the second national curriculum guideline, this one reflecting even newer concepts of an early education for young children in China (Lan, 2007; Yang, 2008). For example, the new guideline highlights “children’s rights to play, to get an education based on their need, interests and autonomy” as valuable and respected principles (Zhou, 2007, p. 981). In addition to regulations issued by the central government, provincial and local governments also began to enforce the implementation of these changes in early education. For example, the Beijing Education Committee issued “Beijing Municipal Enforcement Rules for implementing Kindergarten Education Guideline” to help early educators in Beijing carry out, enforce, and maintain the new national standard of a quality early childhood education (Luo, 2006). In a book describing this process of reform, NAECY’s “Developmentally Appropriate Practice” (DAP) is mentioned as a useful reference, complete with examples (Zhu, 2009, p. 323). In 2012, China has developed its own set of guidelines based on scientific research in the recently released “Guidelines for Three- to Six-Year Old Child Learning and Development.” (Ministry of Education, 2012). This document describes appropriate teaching practices and educational goals related to five domains-health, language, social life, science, and art new guideline. The guideline’s stated aims are to promote scientifically based child care and educational practices. All of these regulations have contributed to what is now regarded as the scientific and standardized management of early education in China (Pang, 2009).

## **5. The Challenge of Change in Diverse Socio-cultural Contexts**

The changes in U.S. and Chinese early education described in this chapter illuminate the dynamic nature of cultural values and educational practices. They also illustrate the challenges of educational reforms, whether due to inspiration or mandates, when they are not accompanied by shared beliefs and deep understandings of the theoretical and societal rationale for changes in teacher practice.

In the U.S., NCLB pressures on teachers have been exacerbated by our children's recent and dismal performance on the Programme for International Student Assessment (P.I.S.A.) of the O.E.C.D (2010). Indeed, the new competitive aim, boldly expressed in this recent book—*Surpassing Shanghai* (Tucker, 2011)—underscores the new and intense focus on promoting academic achievement for purposes of improving America's global competitive standing.

This competitive goal fuels debates about testing, even as states across the country continue to cut funding for preschool (Barnett, and the difficulties of our standardized curriculum for the rapidly growing immigrant population. The U.S. society remains both driven by and ambivalent about the growing press for universal and more standardized forms preschool and early education (Fuller, 2007) as well as the heightened role of science in determining needed and/or appropriate supports for parents, changes in child welfare policies or educational decision-making (Beatty, 2006). Of particular concern to early childhood educators is the highly selective use of social science research to identify “evidence-based best practices” even as some of that evidence ignores research on the importance of play and the cultural variability of children's early learning processes and parents' educational goals. These concerns have reached a new sense of urgency as schools and communities struggle to accommodate growing numbers of immigrant children who come to the U.S. for the an American education, only to discover that their language and cultural traditions hinder their achievement in schools increasingly driven by standardized tests as measures of learning and teacher accountability.

In China, perhaps due to the rapid pace of reform in early care and education industries and in spite of wide-spread agreement at the policy level, Chinese reform initiatives have been less easily translated into teaching practices. One explanation for this discrepancy between policy and practice is most likely because the new regulations are not aligned with teachers' personal and professional beliefs. Hua (2009) considers this phenomenon as the most serious problem existing in the field of early education in China. Inconsistencies between what teachers say and what they do were further illustrated in recent interviews with early childhood teachers in one of China's largest urban cities. Those conversations revealed teachers' knowledge of the wide disparities in education quality between public and private early institutions and their frustrations at the endless paperwork and classroom decoration required by the administration for evaluation purposes. These teachers also acknowledged their confusion about the rationale and mandated implementation of municipal Quality Evaluation Guidelines, especially as some new ideas seemed inconsistent with traditional expectation of promoting academic readiness for young children.

Not only are many of the China's reform initiatives inconsistent with traditional cultural values regarding the purposes of an early education. They are also contrary to China's well established learning model and its emphasis on early instruction, hard work, and high levels of school achievement (Li et al., 2008). Thus, in spite of several decades of regulation and classroom changes, this cultural “message” remains pervasiveness not only among Chinese teachers but also children's parents (Li et al., 2008). Many Chinese parents continue to see their children's personal achievements as part of family honor and are unenthusiastic about distractions from their children's academic studies. Hsiung (2000) provides a good explanation of why it is difficult to change this view of children's early learning, since the Chinese image of the child is as someone born with “an adult” inside, not fully competent and therefore in need of constant instruction and education in order to shape and cultivate the future adult. Chinese scholars also note the costs of implementing Western models of education that risk children's deep engagement with content knowledge (Zhao, 2005).

Furthermore, because of the growing preference among Chinese administrators for borrowing education approaches from other cultures rather than fostering innovation within their own cultural framework, interviews and research by other Chinese scholars suggest that teachers are becoming less capable or motivated to be creative in their own classrooms (Hua, 2009).

## 6. CONCLUSION

Children are not chess pieces, and educational practices designed to promote obedience, diligence and commitment to achievement are not easily interchangeable with those designed to nurture children's individuality, creativity and independence. And yet the reform initiatives outlined in this paper as implemented in China and the U.S. reflect efforts that imply such an exchange. Sociocultural theories of learning and development highlight the essential relationship between cultural values, beliefs and educational practices. So what sense might we make of efforts to change practices without accompanying changes in values and belief systems? Bourdieu's notion of habitus - dispositions shaped by past events that then shape current practices and perceptions (Bourdieu, 1984, p. 170) - helps explain the inevitable tension and professional uncertainty that accompanies the *practice* of ideas imposed by regulations or borrowed from another culture in the absence of the experiences necessary to fully understand or embrace the underlying principles. His concept of cultural capital is also relevant to this dilemma of these two countries' reform initiatives (Bourdieu, 1986). When high-level top-down officials implement educational reforms that have symbolic value but don't correspond to the values and beliefs of the stakeholders (in this case, teachers and parents), new ideas may be reflected in the dominant discourses even when teachers' instructional practices are against their conscience. The risk of reducing teachers to the role of messenger of someone else's priorities is that potentially valuable exchanges of ideas and understandings will occur at a superficial level, rather than as a source of debate and deliberation leading to transformation of our nations' schools for the 21<sup>st</sup> century. While the ideal of such exchanges is likely unrealistic given the growing competition between our two nations, it remains an unfortunate probability that, by asking our teachers to implement practices they do not fully understand or agree with, neither country will have the sort of learning environments our children deserve.

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## **A correlation study on the effectiveness of organizational learning in hospital employee: example from the Hospital Accreditation System**

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### **ABSTRACT**

Our study allows hospital managers to better understand the degree of influence between organizational learning and hospital accreditation awareness, which may assist decision makers in further developing accreditation implementation strategies and encourage professional growth of hospital employee. We hope to expand the functional roles of professionals in a diversified healthcare system, and create a higher quality learning environment.

Keywords: effectiveness of organizational learning, Hospital Accreditation System.

### **1. INTRODUCTION**

The hospital accreditation has been conducted in Taiwan for many years. In 1978, the Department of Health and Ministry of Education of Executive Yuan initiated the teaching hospital accreditation in order to ensure the quality of intern training (Su & Tai, 1994). Afterwards, the hospital accreditation and psychiatric hospital accreditation have been conducted since 1985 and 1988 respectively in order to enhance the medical care quality. Following a succession of medical malpractices occurred in Taiwan, the Department of Health shifted the evaluation goal for hospital accreditation towards “patient-centered attitude” as the accreditation standards at that time could no longer suit the hospital reform and quality assessment. As a result, the hospital accreditation ranking and outcome were re-stipulated and the new hospital accreditation system was implemented in 2004. The hospital accreditation criteria were directed away from the hardware structure of the initial stage to the medical care implementation process and achievement in order to enhance the medical service quality, offer satisfactory medical quality to people, and protect the rights and interests of patients (Wang, Yeh & Tseng, 2003; Wei, Chung & Cheng, 2005).

The hospital accreditation is a tool for quality enhancement. The accreditation process is anticipated to ensure that the medical care system provide safe, effective, and reliable health care (Huang, 2011). In the Taiwan Hospital Accreditation 2011, the accreditation structure is divided into 2 volumes, Operation and Management and Medical Care, with a total of 17 chapters and 238 guidelines. In Hospital Operation and Management, the accreditation includes: Hospital Operation Strategy, Employee Management and Supporting System, Human Resource Management, Employee Education & Training, Medical History, Information and Communication Management, Safe Environment and Facility, Patient-Oriented Service and Management, Risk Management, and Emergency Disaster Response. In Medical Care, the accreditation includes: Patient and Family Member Power & Responsibility, Medical Care Quality Management, Medical Care Conduct and Assessment, Special Care Service, Drug Safety, Anesthesia & Surgery, Infection Control, Testing,

Pathology and Radiation Operation, Discharge Preparation, and Persistent Care Service (Chiu, Chung & Huang, 2011).

From the accreditation entries it was evident that, in the accreditation system of the new Hospital Accreditation in Taiwan based on the patient-centered attitude, the medical service quality was emphasized and the overall collaboration of the medical team was valued aiming to direct the operation strategy and strategy design of hospital towards the patient-centered attitude for de novo thinking and planning (Su, Tasi & Wang, 2008; Chen, Tsai, 2009). The core value of accreditation was to establish a safe, effective, patient-centered, timely, efficient, fair, and high-quality accreditation system (Yin, 2005). The accreditation result could be used to understand the hospital operation and management and medical care effectiveness.

The organizational learning includes Personal Mastery (PM), Team Learning (TL), and Building Shared Vision (BSV) which interact with each other constantly and efficiently in a dynamic process for the organization to improve its abilities to resolve and respond to difficulties and for the systematic internalization of such experiences in the entire organization (Tucker, Nembhard & Edmondson, 2007; Jeffs, Law & Baker, 2007; Pomey et al., 2010). Furthermore, TL research describes what constitutes successful team processes and which organizational variables support good team processes (Cohen & Bailey 1997, Guzzo & Dickson 1996). Effective team learning processes include trial-and-error experimentation and collaborative problem-solving (Bunderson & Sutcliffe, 2002). When project teams take action to experiment and reflect on their actions-including mistakes that might have been made-to improve future problem-solving cycles, they can be said to be learning. The learning mechanism of teamwork and resource sharing among organization members not only muster personal capabilities to bring individual expertise into full play but also unite the talents and consensuses of organization members to strive for the long-term goals of the organization in order to achieve the collective visions (Lin & Lee, 2008).

During the reform process of the new hospital accreditation, the addition of numerous guidelines established by the hospital organization resulted in the work overload of nursing staff and the management (Yin, 2005). The nursing staff are the important human resources of hospital as well as the indispensable major strength of the medical team, and more importantly, one of the influential factors to ensure that the patient receive satisfactory care quality (Dembe, Delbos, & Erickson, 2009). In recent years, the hospital accreditation effectiveness and organizational learning issue have increasingly drawn more and more attention. However, there is a considerable deficiency in the empirical study from the nursing staff's perspective nationally or overseas. The present was intended to further understand the connotation of nursing staff for hospital accreditation and organizational learning in depth to propose more comprehensive thoughts on the organizational learning policy of nursing staff for the government and hospital management and operation personnel.

## **2. METHODS**

### **2.1 Study Design and Sampling**

The present study was descriptive with the objective to investigate the relationship between the nursing staff and the hospital accreditation effectiveness and organizational learning promotion. It adopted the questionnaire method with surface mail and personal distribution to the nursing staff in the district hospitals in Taiwan to fill out the questionnaire for data collection, statistical analysis, and discussion. The

recruitment period was from August 1, 2011 to September 30, 2011 to distribute 650 questionnaires in 2 months. After retrieval of questionnaires and elimination of invalid ones, there were a total of 473 valid questionnaires with a retrieval rate of 72.8%.

## **2.2 Expert Validity, Pretesting, and Reliability**

The questionnaire of this study was constructed based on expert validity. Following the completion of draft questionnaire, the senior clinical nursing staff and medical affair management experts including 2 nursing directors, 1 medical affair management director, and one academic scholar were invited to perform expert validity testing to review the content relevancy and wording clarity of the questionnaire. The CVI (index of content validity) value of at least 85% was used as the testing standard of questionnaire question. The revision based on experts' opinions and suggestions afforded the CVI of 93%.

Following the expert validity testing in the present study, the pretesting questionnaire was confirmed. In the first stage of this study, 40 nursing staff were selected for the pilot testing between June 1, 2011 and June 20, 2011. In terms of reliability, the test-retest reliability was conducted 2 months later. The test-retest reliabilities were: new hospital accreditation effectiveness intraclass classification coefficient (ICC) = .83; organizational learning ICC = .91; The data filled by 473 subjects showed that the ICC value of each scale: new hospital accreditation effectiveness ICC = .92; organizational learning ICC = .94. Prior to performing the questionnaire survey, the official document was forwarded to each hospital to acquire the consent with the objective to revise the questionnaire testing tools.

## **2.3 Data Analysis**

In the present study, SPSS for Windows 18.0 statistical software was used as the tool for statistical analysis of the data. As the weighing criteria of the study variables and applicability of the statistical analysis tool were taken into consideration, the descriptive statistical analysis, validity analysis, correlation coefficient analysis were employed. Finally, the regression analysis was utilized further to investigate the predictability of the independent variables for dependent variables with  $p < 0.1$  as the criterion for statistical significance.

## **3. RESULTS**

The regression analysis results indicated that, with respect to hospital characteristics, the standardized regression coefficients of "Medical Level" and "District Hospital" were positive with a significant positive correlation ( $\beta = .122$  and  $.107$ ) in Personal Mastery of Table 1 from the perspective of hospital characteristics. "Operation & Management" ( $\beta = .229$ ) and "Medical Care" ( $\beta = .166$ ) were also found to show a significant positive correlation. The model explanation force change (F value = 9.831 ;  $P < .01$ ) also reached statistical significance. In Team Learning, the standardized regression coefficients of "Proprietary Hospitals" and "Private Hospitals" were both negative with a significant negative correlation ( $\beta = -.114$  and  $-.076$ ). "Operation & Management" ( $\beta = .159$ ) and "Medical Care" ( $\beta = .476$ ) were a significant positive correlation, with the model explanation force change (F value = 29.543 ;  $P < .01$ ) reaching statistical significance. In Building Share Vision, only "District Hospital" and "Medical Care" ( $\beta = .37$  and  $.649$ ) displayed a significant positive correlation while the model explanation force change (F value = 37.422;  $P < .01$ ) achieved statistical significance. It was thus perceived that "Hospital



Location” did not serve a significant effect ( $\beta$  value not reaching statistical significance).

Table 1. Multiple Regression Analysis of Hospital Characteristics and Accreditation Effectiveness on Organizational Learning

Measure	Personal Mastery		Team Learning		BSV	
	Beta	<i>t</i>	Beta	<i>t</i>	Beta	<i>t</i>
<b>Hospital Ownership</b>						
Public Hospitals (Reference group)						
Proprietary Hospitals	.069	1.322	-.114	-2.503**	-.051	-1.181
Private Hospitals	.075	1.524	-.076	-1.769*	-.053	-1.305
<b>Hospital level</b>						
Medical level (Reference group)						
Regional hospital	.121	1.945*	-.030	-.551	.037	0.723
District hospital	.107	2.107*	.044	.984	.077	1.811*
<b>Hospital location</b>						
Northern (Reference group)						
Central	.009	0.192	-.028	-0.654	.052	1.277
Southern	-.091	-1.457	-.044	-0.822	-.020	-0.388
Eastern	-.054	-1.062	.037	0.841	.027	0.629
operation and management effectiveness	.229	3.843**	.159	3.077**	-.006	-0.119
medical care accreditation effectiveness	.166	2.766**	.476	9.128**	.649	13.05*
<b>Model explanation force change</b>						
$R^2$	.160		.365		.421	
Adj. $R^2$	.144		.352		.410	
F	9.831		29.543		37.442	
P	.000**		.000**		.000**	

Note: \*\*  $p < .01$ , \*  $p < .1$

#### 4. DISCUSSION

In the medical care system, the Department of Health of Executive Yuan assigns different missions and tasks for different hospital accreditation ranking. The career development provided for the nursing staff in each hospital is also not identical. The finding of the present study was dissimilar to that by Chen (2011) who believed that self-transcendence, team learning, and mutual vision, and organizational characteristics were in positive correlations, and the characteristics of medical center was higher than the non-medical center. In the related studies on the medical care industry in Taiwan, there was no literature focused on the analysis of the differences in organizational learning of hospitals of various characteristics. We started from the nursing staff’s viewpoint to study the hospital accreditation effectiveness. The results

of this study demonstrated that the hospital accreditation effectiveness was an important factor to impact the organizational learning under various hospital levels and ownerships, which was one of the contributions of the present study.

The outcome of the study by Chen (2009) on the investigation of hospital accreditation criteria and accreditation operation in the execution aspect unraveled that demographics such as age, gender, highest education, employment position, job function, and years of service in medical care and variables of experiences related to hospital accreditation could significantly impacted the awareness of accreditation operation in the execution aspect. The study conducted by Shih (2010) also held the opinion that gender, job function, education, and years of service were significantly different in the organizational learning aspect. This study further discovered that the hospital accreditation effectiveness was not significantly influential on organizational learning in terms of gender and age, which was different from that by Chen (2009). Karp & Sirias (2001) also proposed that the career and work attitude values of nursing staff at younger ages were different from those at older ages. Moreover, this study also found that the nursing staff with master degree and years of service of 11-20 years did not pay much attention to team learning in terms of hospital accreditation effectiveness. However, those with bachelor or college degree, and management position paid more attention to self-learning. Moreover, one employee with better self-efficacy will give rise to higher motivation for learning and transfer. This finding is compatible with the theory put forward by Liao, Lin, Hung & Wei(2009) , indicating that it will start with the trainee's inner aspect to boost his learning motivation .

Cheater & Keane (1998) pointed out in a qualitative study that the nursing staff was the first line of the medical care system, played key roles in numerous quality promotion projects or accreditation tasks, and possess passion and support for clinical quality auditing. The investigation of the origins led to the likelihood where the nurses were instilled with the internal need of belief to do the right thing during the educational process. For the patients, offering good quality indicated good care. For the external need, the nurse deems quality assurance as the law. Therefore, nurses were more eager to participate in quality promotion activities (Lundqvist & Axelsson, 2007), showed strong sympathy for the organization, and formed the vision of success. However, the outcome of this study also learned that the nursing staff with 16-20 years of service did not recognize BSV with respect to the medical care accreditation effectiveness. In other words, as the service experiences grow, the nursing staff took notice of different needs resulted from the development of various stages owing to the changes in value with different learning expectations. From the perspectives of receiving new stimulations or organizational learning, as age and work experience grow, the nursing staff may look at their work environment or the collaboration with hospital accreditation policy differently to give rise to different organizational learning as the comprehensiveness of things to notice and the learning or knowledge accumulated varied. Since the implementation of hospital accreditation in Taiwan, the medical care quality has been improved. As the hospital accreditation effectiveness increases, the organization members will continue to learn in such circumstances with a higher degree of consent to the accreditation. The results of the present study indicated that the medical care accreditation effectiveness was an important factor for self-learning under various education level and occupation position, which was another contribution of this study.

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**A snapshot of teachers' beliefs  
about learner autonomy in Vietnamese higher education**

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## **ABSTRACT**

This study is a snapshot of teachers' beliefs about learner autonomy in Vietnamese higher education. Learner autonomy can be defined as learner' willingness and ability to take responsibility, to plan, implement, monitor and evaluate his/her learning with tasks that are constructed in negotiation with and support from the teacher. This paper examines the beliefs of 188 Vietnamese university teachers of English as a Foreign Language (EFL) about learner autonomy in language education. It was found that overall teachers felt that control of the classroom was their responsibility with 71% of teachers indicating that they did not believe students would be capable of becoming autonomous learners. However, approximately 90% of the teachers wanted more teacher trainings to foster learner autonomy.

Keywords: Learner autonomy, teachers' beliefs

## **1. INTRODUCTION**

Learner autonomy has been researched throughout the world for more than three decades (Dam, 2011). More specifically, learner autonomy in second language learning has been investigated extensively, but mostly in Western countries such as the UK (Dam, 2011; Schwienhorst, 2008) or Australia (Willis, 2011). However, fewer studies have been conducted in Asian educational contexts where traditional teacher-centred methods are commonly employed (Dang, 2010; Ho & Crookal, 1995; Littlewood, 1999). In relation to learner autonomy, teaching and learning English in Vietnam is akin to the metaphor of 'giving students a fish' rather than 'teaching them how to fish' (Trinh, 2005). In other words, the main task of the teacher appears to be to transmit knowledge to his/her students (Dang, 2010; Nguyen, 2010) rather than encouraging students to become autonomous in their learning. Learner autonomy is a relatively new concept in Vietnam but an important one that is now mandated by government policy in education. This research focused on the teachers' beliefs about their roles and responsibilities in the classroom and, as a consequence, their beliefs about the best approaches to foster learner autonomy in the teaching-learning process.

## 2. BACKGROUND

Current understandings of learner autonomy can be traced back to Holec (1981), who defined learner autonomy as “the ability to take charge of one’s own learning” (p. 3). Since then, in other definitions of learner autonomy, the words ‘ability’ and ‘take charge of’ have often been replaced by ‘capacity’ and ‘take responsibility for’ respectively. For example, Little (1991) conceptualized learner autonomy as ‘a capacity for detachment, critical reflection, decision making and independent action’ (p. 4). Littlewood (1996) described the notion of learner autonomy as “learners’ ability and willingness to make choices independently” (p. 427). Interestingly, Benson (1997) took the political view of learner autonomy and defined it as learners’ rights. Given the global and local values in education worldwide today, learner autonomy in the current research is defined as learners’ willingness and ability to take responsibility, to plan, implement, monitor and evaluate his/her learning with tasks that are constructed in negotiation with and support from the teacher.

### *Learner autonomy in Asia*

There is a growing body of research in the Asian region exploring the concept of learner autonomy. For example, learner autonomy has been explored among students from China (Yu, 2006; Chang, 2007), Hong Kong (Ho & Crookal, 1995; Littlewood, 1999; Chan, 2003), Japan (Aoki, 2008; Sakai, Takagi, & Chu, 2010), Turkey (Yildirim, 2008; Balcikanli, 2010), Malaysia (Januin, 2007; Ng. & Confessore, 2010), and, to a lesser extent, Vietnam (Trinh, 2005; Dang, 2010; Nguyen, 2010). The previous studies in Asia described different approaches to foster learner autonomy. For example, Yu (2006) and Dang (2010) explored learner autonomy in relation to students’ ICT application. Ng and Confessore (2010) and Nguyen (2010) described learners as the major factors in fostering learner autonomy. Although the findings of these studies were mixed, they do show that many Asian students value freedom in language learning. In other words, students valued becoming autonomous learners.

Some researchers (Ho & Crookal, 1995; Littlewood, 1999; Benson, Chik, & Lim, 2003; Dang, 2010) expressed concerns about the application of learner autonomy in an Asian context. This concern may have arisen due to a potential conflict in using the term learner autonomy, which is somewhat contradictory to the perceived traditional beliefs of the relational educational hierarchy in Asia where learners respect the teacher as an authority figure. In addition, the great influence of cultural traditions and the socio-cultural process particular to Asian countries has an impact on how learner autonomy is thought about and applied in teaching and learning, which in many ways is different to how it is thought about and applied in non-Asian countries.

### *Learner autonomy in Vietnam*

In Vietnam, the content of learning, including objectives and activities/tasks that students undertake in class are largely predetermined (Dang, 2010; Nguyen, 2010; Trinh, 2005). For example, teachers and students have little power or freedom to make decisions about the objectives of learning as this is controlled by the central Ministry of Education. Because there has been little scope for innovative pedagogy such as with learner autonomy, a consequence has been that students tend to be unmotivated and passive in their learning and receive little encouragement to become autonomous learners (Dang, 2010; Nguyen, 2010; Trinh, 2005). However, the importance of learner autonomy has been acknowledged in a new educational policy (Ministry of Education and Training, Vietnam, 2007) issued on the 15 August, 2007 by the Vietnamese government. The aim of this policy is to develop more autonomous

learning with more active and responsible students, with a focus on developing lifelong and autonomous learners. According to this new policy, all universities and institutions must adapt their syllabus and teaching and learning processes to a central accreditation-based system, which includes the development of learner autonomy. It follows then that teachers may need to change their teaching strategies to meet the expectations of these new requirements. However, how teachers perceive the issue of learner autonomy and, consequently, how they may apply it into their instructional practices remains very unclear.

Some earlier studies (Dang, 2010; Nguyen, 2010; Trinh, 2005) that explored learner autonomy for English-as-a-Foreign Language (EFL) students in Vietnam have suggested that teachers have the power to promote learner autonomy if they believe it was worthwhile to pursue. However, to date, there have been no studies conducted on how Vietnamese teachers perceive learner autonomy or how these perceptions may affect teaching strategies. The purpose of this exploratory research was to understand what teachers believe their roles are and what they believe they need in order to support their students' developing autonomy in the Vietnamese educational context.

### **3. METHODOLOGY**

The current paper reports on the survey findings from a larger study on learner autonomy. The survey consisted of 23 items on teachers' beliefs about learner autonomy with questions such as: *I am responsible for determining the objectives for each lesson in my classroom*. Before administering the final survey a pilot test was conducted with 17 participants to verify that the items and procedure were well-understood and that the test did not yield obvious bias effects (Dornyei, 2003). The question type for this study used a five-point Likert-type scale with possible scores ranging from: strongly agree (SA) to strongly disagree (SD). After analysing the data from the pilot testing and making some changes to the questionnaire, the survey was administered to 188 EFL teachers at ten major universities in Hanoi who agreed to participate in the study. These universities were chosen because their students do not major in English; however, English is a compulsory subject and so a common factor for their inclusion in the research. The survey was conducted over a four-week period in March, 2012. All descriptive statistics and the results of the statistical analysis were generated using SPSS version 19 for Windows.

### **4. RESULTS**

The following section summarizes the results of the questionnaire on teachers' beliefs about the construct of learner autonomy in the Vietnamese educational contexts. Table 1 (below) indicates that most surveyed teachers regarded themselves as bearing the major responsibility for all aspects of the teaching-learning process in their class. For example, approximately 87% of teachers agreed (A) or strongly agreed (SA) that they were responsible for determining the objectives of each lesson in their classroom. Approximately, 72% believed that it was their responsibility for choosing the learning content, 83% believed that they, not their students were responsible for evaluating student progress, 92% believed that they were responsible for choosing the teaching methods and techniques for learning and 84% indicated that they believed they were responsible for monitoring the learning process in each lesson.

Table 1. Teachers' Responsibility

	<b>SD</b>	<b>D</b>	<b>U</b>	<b>A</b>	<b>SA</b>	<b>M</b>
I am responsible for determining the objectives for each lesson in my classroom.	2.7	4.8	3.2	57.4	30.0	1.6
I am responsible for choosing the learning content for each lesson.	1.6	14.4	9.0	60.6	12.2	2.1
I am responsible for evaluating my students' learning progress in each lesson.	0.5	5.3	10.1	62.8	19.7	1.6
I am responsible for selecting the methods and techniques to be used in each lesson.	0.5	2.7	3.7	56.9	34.6	1.6
I am responsible for monitoring the learning process in each lesson.	2.1	4.3	7.4	57.4	26.6	2.1

(**SD**: Strongly Disagree, **D**: Disagree, **U**: Undecided, **A**: Agree, **SA**: Strongly Agree, **M**: Missing)

A possible reason for such a high response to teachers' indicating that they believed the major responsibility for learning rests with them may be found in their response to Question 12 of the survey: *Learner autonomy is only achieved by certain learners*, where 71% indicated that they agreed (A) or strongly agreed (SA) with this statement. In other words, the majority of teachers indicated that they did not believe learner autonomy was achievable by most of the students in their class so, therefore, they must take on the majority of the responsibility for student learning themselves.

The survey also explored teachers beliefs about possible approaches they felt necessary to foster learner autonomy. Table 2 reports on teachers' beliefs about possible approaches they may take (or have taken) to develop learner autonomy in their current teaching contexts. In general, teachers indicated that with targeted support, they could foster their students to become more autonomous. For example, approximately 85% of teachers agreed (A) or strongly agreed (SA) with the statement that providing students with learning materials and resources could help them to become autonomous. Approximately, 81% believed that applying ICT into language learning helped to foster learner autonomy, 90% hold the beliefs that training students to develop their skills and strategies would help students to become autonomous, 77% indicated that there must be curriculum reform to enhance learner autonomy, while 88% thought cooperative learning with other students and teachers was good approach to develop learner autonomy.



Table 2. Teachers' approaches to foster learner autonomy

	SD	D	U	A	SA	M
Providing students learning materials and resources	1.6	6.4	5.3	66.5	18.6	1.6
Applying ICT into language learning	0.0	4.3	13.3	70.2	11.2	1.1
Training students to develop their skills and strategies to become autonomous	1.1	3.2	5.3	57.4	32.4	0.5
Curriculum reform	1.1	2.7	14.9	59.6	17.6	4.3
Cooperative learning with other students and teachers	1.1	3.2	6.9	55.3	32.4	1.1
Training teachers	0.0	2.1	6.4	63.3	26.6	1.6

(SD: Strongly Disagree, D: Disagree, U: Undecided, A: Agree, SA: Strongly Agree, M: Missing)

Significantly 90% of teachers surveyed wanted teacher training to facilitate autonomy. Given the importance of learner autonomy as a result of new educational policy change in Vietnam, this study was conducted to explore the beliefs of teachers with respect to learner autonomy as a capacity of learners to take control of their own learning. Clearly, the results indicated that teachers believed that they are the major controllers of the class because they believe, on the whole, that their students are not able to become autonomous. However, teachers indicated that if they had targeted support, they could help more students to achieve autonomy. This result may indicate that teachers understand that they must incorporate more learner autonomy opportunities for their students but want support on how they can achieve this.

## 5. DISCUSSION

One major finding of this study was that teachers had a well-defined view of their role and responsibilities. This finding supports Chan's (2003) research on Hong Kong teachers' perspectives about learner autonomy, which reported that Hong Kong teachers clearly saw themselves as mainly responsible for students' language education. There were numerous indications in the current study to indicate that teachers generally regarded themselves as the controllers of learning decisions, rather than handing these decisions over to their students. A possible reason for this seemed to be that teachers believed that their students were not able to establish their own personal learning agenda and their own directions for learning. Research by Ho and Crookal (1995) and Littlewood (1999) indicated that Eastern learners, including Vietnamese learners, share traditional beliefs of a relational hierarchy in the classrooms, where the roles of teachers and learners are rooted deeply in people's thinking. In these classes, students tend to be very passive and dependent upon their teachers for learning while their teachers have great authority in the classrooms. Educational systems in Asian countries are considered as highly teacher-centered with traditional teaching methods widely utilized. As a result, the majority of learners undergo the process of learning through recitation of lessons and the teacher adopts the role of authority rather than a facilitator. Additionally, schools are formed in a structured way where the authority is not shared; individuality and creativity are less encouraged. As a result of this system, learners tend not to take responsibility for their

own learning during their educational process. The current research supported this view of teaching and learning in the Vietnamese context of higher education.

This is not to say that teachers did not believe that they could help to foster learner autonomy. In the present study, contrary to negatively thinking about their students' ability to become autonomous, many participants reported that if they had targeted support, especially if they had training on how to implement learner autonomy, they would be better able to facilitate learner autonomy. This finding suggests that teachers recognized they need help to foster learner autonomy and that they are willing to accept this help. Aoki (2008) argued that to encourage teachers to foster learner autonomy, they need to feel safe to interpret learner autonomy in their own way. In addition, given the various constraints on teachers currently willing to foster learner autonomy, Benson (2001) argued that the teachers "play the key role of explaining and justifying these constraints to his or her learners" (p. 116). In other words, the teacher might run the risk of being "the most important constraint on the exercise of their right to autonomy from learner's perspective" (p. 116). A number of participants in the current study reported that they needed different approaches to foster learner autonomy, but more than that, they recognized they could be a constraint to foster learner autonomy if they did not have appropriate training.

Learner autonomy is a new concept to be included in education, mandated by the Vietnamese government. The results of the current research supported those of previous studies (Aoki, 2008; Balcikanli, 2010; Chan, 2003; Yildirim, 2008) suggesting that developing learner autonomy at tertiary level in Asian countries is an ongoing endeavour. It is a complex issue in understanding teachers' beliefs about learner autonomy in the teaching and learning process and in understanding how those beliefs can be supported in teaching practice. A limitation of the study is that it was conducted with Vietnamese teachers who have been mandated by the government to incorporate learner autonomy into their teaching practices. In this, the results cannot be generalised to other contexts. More research in this area in other Asian contexts is warranted. This exploratory survey is a snapshot of the developing trend to incorporate learner autonomy in Vietnamese higher education and functions as basis for a further qualitative study on teachers' beliefs about learner autonomy in the Vietnamese educational contexts.

## **6. CONCLUSION**

This study examined 188 EFL Vietnamese teachers' beliefs about learner autonomy. The data collected for the purpose of this study was a Likert-type survey delivered to ten universities in Hanoi, Vietnam. Although this initial stage of exploring the concept of learner autonomy revealed an overview of teachers' beliefs about learner autonomy, the findings suggested that the teachers hold strong beliefs about their responsibility but were less positive in their beliefs about their students' ability to become autonomous. The findings also suggested that teachers believed that they need support to foster learner autonomy. Given these findings about teachers' beliefs, an investment in teachers training programs could bring benefits to teaching-learning process to foster learner autonomy in Vietnamese higher education. Future research to understand the issue of learner autonomy in Asian contexts needs to be carried out.

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## **Emotional Intelligence and Psychographic Profiles of the Potential First Class Students**

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### **ABSTRACT**

The study examined the correlation between emotional intelligence dimensions and psychographic attributes among Potential First Class students. The study also explored the differences between age and ethnicity factors on the level of psychographics attributes among 424 potential first class students (69 males and 355 females). The result showed significant relationship between emotional intelligence dimensions as well as significant correlation between psychographics attributes. Furthermore, significant relationship was found between emotional intelligence construct and psychographics attributes. In addition, the results showed that there were differences on the level of psychographics attributes based on the age and ethnicity factors. Lastly, the study recommended that emotional intelligence, and psychological constructs are important factors that could improve student success, especially for the university students.

### **1. INTRODUCTION**

Graduate studies are established for the development of education towards a higher level, to provide a generation with knowledge that will be useful for their future. Students are valuable assets of the nation. They are the future leaders and they will determine the direction of the nation in future. In recent years, there is an increase in the expectations of stakeholders on the quality of graduates in Institutions of Higher Learning (IHE). Universities are expected to produce graduates that have the capacity to enhance their learning, potentially to higher levels of postgraduate studies. This is in line with the aspiration of Malaysia; to produce 60,000 doctorates by 2015 under the government effort known as Mybrain 15. Particularly, Mybrain 15 is one of the critical agendas of the National Higher Education Strategic Plan (PelanStrategikPengajianTinggi Negara- PSPTN). Its main aim is to develop human resources that are highly knowledgeable as a catalyst to enhance research and innovation as well as to ensure that the development of knowledge based economy on innovation can be achieved successfully.

The success of a student at university is evidence that can be associated with other variables or a combination of variables consisting of academic and non-academic factors. EI has emerged as an important factor that influences one's success in life. Intellectual intelligence contributes only 20% to one's success while the remaining 80% of a person's success in life is contributed by emotional and social intelligence

(Goleman, 1995). Past researchers found that EI had great influence in all aspects of life including health and social matters. Although people of high intelligence quotient (IQ) and those of moderate IQ always do well in life, the lack of EI can sabotage their intellect and ruin their careers (Harrington-Lueker, 1997). The importance of emotions, feelings, and ethics are to ensure the positive engagement with others. People with high level of EI experience more career success, build stronger personal relationship, lead more effectively, and enjoy better health. Belanger (2005) stated that although cognitive intelligence can help students select courses to major in, EI is a better predictor of student's success in completing the study. Students with high EI are prepared to deal with the challenges of new environment, setting up a responsibility schedule and study plan, meeting new people, and dealing with frustration and anxieties of being out of control of the environment (Goleman, 1998).

The previous paragraphs outline about the EI. Meanwhile, the Psychographics features three components: values, self-concept, and lifestyles. However, the term psychographics is often used interchangeably with lifestyles which put forth activities/attitudes and opinions (AIO) as the research variables. Woodside and Pitts (1976) and Abbey (1979) empirically tested the effectiveness of psychographics and found that lifestyle variables were important in classifying respondents, and in relation to that it communicated something that was real, meaningful, and relevant, beyond what demographic analysis could do. Plog (1994) argued that segmentation based on psychographic characteristics could produce clearly defined groups of individuals with similar lifestyles and interest. Good psychographic research can greatly increase the effectiveness of identifying the appropriate target group, focusing the message on its psychographic needs, and selecting the appropriate candidates.

Since the main strategy of Malaysian educational system is to produce young experts in the country, this study investigates the psychographic and emotional intelligence factors of potential first class students in the hope to obtain preliminary information of the needs and profile of the students before the development of any intervention programmes to fulfil the strategy of the goals of the country in general. Therefore, the purpose of the study is to evaluate the emotional intelligence and psychographic attributes and the relationships between both variables as perceived by the potential first class University Utara Malaysia undergraduates.

## **2. OBJECTIVES OF THE STUDY**

The objectives of this quantitative study are to identify the relationship between emotional intelligence dimensions, the relationship between psychographic attributes, to compare the levels of psychographic attributes based on demographic characteristics such as age, ethnicity, and colleges, as well as to determine the relationship between emotional intelligence variable and psychographic attributes among potential first class students in University Utara Malaysia. In short, the objectives of the study are:

1. To examine the relationship between emotional intelligence dimensions among first class students in University Utara Malaysia.
2. To examine the relationship between psychographic attributes among first class students in University Utara Malaysia.
3. To compare the level of psychographic attributes based on demographic variables (such as age and ethnicity) among first class students in University Utara Malaysia.

4. To determine the relationship between emotional intelligence variable and psychographic attributes among first class students in University Utara Malaysia.

### **3. LITERATURE REVIEW**

#### **3.1 Emotional Intelligence**

EI has generally been defined as "the awareness of our emotion and the importance the emotions play in our relationships and our lives" (Goleman, 1995; Mayer & Salovey, 1990; Baron, 1997). Thorndike (1920) coined EI as social intelligence and along the same lines of study, Gardner (1983) introduced a model of multiple intelligence composed of the ability for intrapersonal and interpersonal intelligence. Mayer, Salovey, Caruso, (2004) defined EI as the "ability to recognize the meaning of emotions and their relationships and to use them as a basis for reasoning and problem solving". Mayer et al. (2004) believed that the EI is related to cognitive intellect through the ability to use reasoning by way of information to find meaning. However, Mayer and Salovey (2004) argued that the skills that comprise EI were likely enhanced through obtaining a liberal education infused with values exploration. Mayer et al. (2004) contended that there are four branches of abilities that create emotional intelligence: (a) the skill of perceiving emotion within oneself and others, (b) assimilation of an emotion to facilitate thinking, (c) understanding and knowledge of emotion, and (d) conscious regulation of emotion.

Generally, researchers claimed that students need early EI programs in order to succeed in their environment because it incorporates a number of abilities, including the ability to be aware of one's own and others emotions, to be able to manage those emotions, and to understand the complex relationships that can occur between emotions and likely emotional transition (Austin et al., 2005; Mayer & Salovey, 1997). On the other hand, the EI is considered as a basic component that predicts not only academic achievement but also personal attributes that comprises of protective factors that are related to successes of children, adolescents, and adults in later life (Goleman, 1995). In addition, Goleman (1995) claimed that the EI could be more powerful than the IQ in the determination of life's successes including academic achievement and an array of social and emotional behaviors linked to educational and life successes. Goleman (1995) further added that it can be increased as time passes either through formal and informal learning strategies. Despite the problems with the various definitions of EI, the development of EI competencies has been reviewed as important process of developing relationships and working with other group. In this study, the EI refers to the Goleman's (1995) as well as Goleman et al. (1998, 2002) models of EI as they provide a model for competency.

#### **3.2 Psychographic Attributes**

Basically, psychographics have three components namely attitude, interest, and opinion (AIO). These components are also referred to as psychographics profile with the application of AIO to studying lifestyle based on quantitative measures. In other words, psychographic analysis is a technique that investigates how people live, what interest them, and what they like – Also called lifestyle analysis or AIO because it relies on a number of statements about a person's activities, interest, and opinion. Therefore, psychographics profile is useful in understanding the AIO of potential 1st class students in UUM. In general, the psychographic researchers would like to

analyze these three factors primarily in order to understand the psyche of the students. Then researchers can adopt a suitable coaching and mentoring strategy or they can alter an existing coaching and mentoring strategy. Woodside and Pitts (1976) and Abbey (1979) empirically tested the effectiveness of psychographics and found that lifestyle variables were important in classifying respondents and these variables communicate something that is real, meaningful, and relevant, beyond what demographic analysis could do. In the context of this study, four dimensions of psychographic characteristics are selected to measure and evaluate potential first class students in UUM. The four dimensions are achievement motivation, self-efficacy, time management, and leisure attitude.

### **3.3 Achievement Motivation**

General achievement motivation is widely recognized as a capacity to experience pride in accomplishment or a disposition to strive for success across varied achievement situations and standards (Atkinson, 1974). Murray (1938), who first discussed achievement motivation as a personality disposition, more explicitly described the need to achieve as the desire “to accomplish something difficult”, “to master, manipulate or organize physical objects, human beings, or ideas, to do this as rapidly and as independently as possible”, “to overcome obstacles and attain a high standard”, “to excel one’s self”, “to rival and surpass others”, and “to increase self-regard by the successful exercise of talent” (p.164). Achievement motivation is not a single dimension variable and has several dimensions. For example, some people strive for success because it is a positive goal; others strive for success because they fear the consequences of failure. Thus, one student might work hard in school because he/she really likes his/her courses and has fun with them, but other students might work equally hard because he/she fears the consequences of not getting good grades, such as not getting a good job or not getting into graduate school. In spite of that, for most students, the need for achievement and fear of failure are probably mixed. Therefore, different approaches to achievement have provided insight into additional aspects of achievement. According to Jackson, Ahmed, and Heapy (1976), there are six distinct dimensions for achievement motivation: (1) status with experts; (2) acquisitiveness; (3) achievement via independence; (4) status with peers; (5) competitiveness; and (6) concern for excellence. They devised five different methods for measuring each of the six dimensions, resulting in thirty different scales. There are weak relationships among the different dimensions with all five measurement methods, but each of the five methods is strongly related within each of the dimensions. This is evidence that there are at least six achievement dimensions, which are reliable across different measurement scales.

### **3.4 Self-Efficacy**

Self-efficacy (SE) is defined as the levels of confidence individuals have in their ability to execute certain courses of action, or achieve specific outcomes (Bandura, 1977, 1997). According to Bandura (1997), the SE beliefs are constructed from four sources of information namely enactive mastery experience or the experience from performing similar tasks, vicarious experiences, verbal persuasion and physiological states. SE has been used by several researchers as a predictor of performance because it is said that efficacy expectations can influence initiating behaviours, and the degree of persistence applied in overcoming difficulties encountered in the pursuit of accomplishing a task or tasks (Bandura, 1977). The positive links between SE and performance are widely reported in the literature and several studies have been carried out in a range of different settings. Chemers et al. (2001) conducted a longitudinal study involving first year university students in order to examine the effects of



academic SE and optimism on students' academic performance, stress, health, and commitment to remain in school. The authors included several predictor variables (high school grade-point average, academic SE, and optimism) and moderator variables (academic expectations and self-perceived coping ability) in their study. These variables were measured at the end of the first academic quarter and were found to be related to classroom performance, personal adjustment, stress, and health. The study found that academic SE and optimism were strongly related to performance and adjustment. At the end, a direct impact of SE and optimism on academic performance was found. As for classroom performance, stress, health, overall satisfaction, and commitment to remain in school, the impact of SE and optimism was indirect and transited through expectations and coping perceptions.

### **3.5 Time Management**

Time management is not a new concept. It has been discussed in the 1950s and 1960s, and several authors have proposed methods on how to handle time issues on the job (Drucker 1967; Lakein, 1974; MacKenzie, 1972; McCay, 1959). It can be viewed as a way of monitoring and controlling time (Eilam&Aharon, 2003). In terms of definition, time management has been referred to as a technique for effective time use, especially having enough time to accomplish the many tasks required (Orpen, 1994; Slaven&Totterdell, 1993; Woolfolk&Woolfolk, 1986). Many also defined time management as techniques for managing time (Adams &Jex, 1997, 1999; Jex&Elacqua, 1999; Davis, 2000; Macan, Shahani, Dipboye, & Philips, 1990; Macan, 1994, 1996; Mudrack, 1997). Besides, Burt and Kemp (1994) and Francis-Smythe and Robertson (1999) referred it to as planning and allocating time. In addition, studies also defined it as the degree to which individuals perceive their use of time to be structured and purposive (Bond & Feather, 1988; Strongman & Burt, 2000; Vodanovich&Seib, 1997) and a technique to increase the time available to pursue activities (King et al., 1986). It is also mentioned as intended to maximize intellectual productivity (Britton &Tesser, 1991) and an application of self-regulation processes in the temporal domain (Griffiths, 2003). Other definitions include self-regulation strategies aimed at discussing plans, and their efficiency (Eilam&Aharon, 2003); coping behavior in at-risk populations (King et al., 1986); ways to assess the relative importance of activities through the development of a prioritization plan (Kaufman-Scarborough & Lindquist, 1999); the use of procedures that are designed to help the individual to achieve his or her desired goals (Hall &Hirsch, 1982). Besides time management, time structure (Bond & Feather, 1988) is also used interchangeably with basically the same meaning.

### **3.6 Leisure Attitudes**

People pursue leisure opportunities for different reasons and worth different levels of intensity, depending upon the nature of their needs, values and attitudes at any given time. Leisure can be pursued very intensely as an end in itself, perhaps compensating for dissatisfaction in other areas of life, such as work. On the other hand, leisure may be pursued as an expression of status in society (Edginton, Jordan, Degraaf, & Edginton, 2002). What leisure is has to be conceptualized and defined from diverse perspective that reflects historical variations in the organization of societies, as well as in concepts of, and impingements upon, both freedom and pleasure (Godbey, 1989). Leisure has generally been perceived as free time and freely chosen activity. For an individual, the notion of "free time" means not being obligated to others in one's personal and institutional membership groups (Harrington & Dawson, 1995). Henderson (2001) defined leisure as "a quality of any experience that has element of choice and enjoyment associated with it". Leisure implies freedom

and choice and is customarily used in a variety of ways, but chiefly to meet one's personal needs for reflection, self-enrichment, relaxation, or pleasure.

### **3.7 Emotional Intelligence and Psychographic Attributes**

Based on the reviews of the related literatures, emotional intelligence and psychographic attributes are reported to be very relevant to students' academic achievement and their involvement in extra-curricular activities. Attention has been given to the problems that are perceived by university students. Such attention has motivated many researchers to investigate matters to understand the skills that are important to students' success. Consequently, researchers have provided students with skills and competencies which positively affect students' success in their university life experience. In addition, they have provided students with emotional intelligence competencies that have become a new mode of survival for students in all fields. Researchers have also accepted that the central objective of education is to help students learn how to think more effectively, manage their emotions, and communication with others. However, there is a consensus among researchers that emotional intelligence skills as well as individual differences are important factors in the student's learning process (Plog, 1994; Pascarella & Terenzini, 1989; Low & Nelson, 2005). EI skills are also important because they hold the key to understand how students handle their experience throughout university life. Thus, this study derives its importance from dealing with the subject of EI which is relatively modern topic. In addition, it has a major impact on academic success which could help students be more successful in their personal and professional lives. Moreover, this study could help decision makers establish an educational system that is appropriate in producing students who are equipped with both psychographic variables such as SE, time management, high level of motivation, social skills and EI skills to help them adapt and excel in their studies.

## **4. METHODOLOGY**

### **4.1 Sampling and procedure**

The population of this study was the listed potential first class undergraduate students in UUM. This group consisted of the students who obtained at least 3.50 of the CGPA within the duration of this study was conducted. Thus, they were referred to as potential first class students. Records from the Academic Affairs Department listed 3,939 potential first class students. The designed questionnaire was distributed to all students during the ceremony of the Dean's List Award; however only 424 students gave the feedbacks hence qualifying it as a convenience sample for analysis purposes.

### **4.2 Instruments Development**

This study used a self report questionnaire as the instrument to collect data. It comprised of three sections namely background of respondents, elements of EI, and elements of psychographic. The background section initiated some necessary information about the respondents such as gender, ethnicity, and other factors that may be beneficial for understanding differences in EI characteristics and psychographic attributes. The elements for measuring EI were developed following the instrument developed by Tapia (1998). The characteristics were measured using a four-point scale which was based on rank justification from (1) strongly disagree, (2) disagree, (3) agree and (4) strongly agree. There were 52 questions which focussed on five EI characteristics, i.e. self-awareness, self-regulation, motivation,

empathy, and social skills. The Cronbach's alpha for the five subscales ranged from .828 to .852 and the combination of these scales was .895.

Meanwhile, the psychographic attributes were developed by adapting some standard resources to measure achievement motivation, SE, time management, and leisure attitude. The measurement scale comprised of 41 items using five-point Likert-type scale with the responses ranging from strongly disagree (1) to strongly agree (5). The Cronbach's alpha for the psychographic scale in this study was .895. The details of measurements scale used in psychographics are as follows:

1. *Achievement motivation* – Scale for this attribute was adapted from Work and Family Orientation Questionnaire (WOFO) developed by Helmreich and Spence (1983). 19 questions from WOFO assessed three main factors which included (a) 8 questions of mastery that looked into the preference for difficult and challenging tasks, (b) 6 questions of work that studied positive attitudes toward work and (c) 5 items of competitiveness that measured the desire to win in interpersonal situation. These questions were found satisfactory by Helmreich and Spence (1983) thus were adopted in this study.
2. *General self-efficacy* – The general SE measurement was developed by Schwarzer (1992). The measurements assessed a general sense of perceived SE with the aim in mind to predict coping with daily hassles as well as adaptation after experiencing all kinds of stressful life events. These measurements were also tested by Bandura (1982, 1986) and Schwarzer (1992) who both found that the scales were adequate to predict adaptation after life changes and became an indicator of quality of life at any point in time. It was very suitable with this study as the attribute is in agreement with the definition of SE as an individual's belief that he or she has the ability to perform at a specified level on a certain task.
3. *Time Management* – scale of this attribute was adapted from the Perceived Control of Time which was developed by Macan (1994). Four questions were used to assess the extent to which individuals believe that they can directly affect the way they manage their time.
4. *Leisure* – In this study, leisure attitude was measured according to Raghed and Beard (1982) based on Leisure Attitude Scale. It covered a dimension of leisure called the cognitive components which comprised of eight questions. The related questions of cognitive components include such elements: (a) general knowledge and beliefs about leisure, (b) beliefs about leisure's relation to other concepts such as health, happiness, and work, and (c) beliefs about the qualities, virtues, characteristics, and benefits of leisure to individual such as: developing friendship, renewing energy, helping one to relax, meeting needs, self improvement.

## 5. DATA ANALYSIS

### 5.1 Profile of sample

The sample of the first class students as detailed in Table 1 consisted of 69 males (17.1%) and 355 females (82.9%). Most of them ranged between the ages of 21 to 23 years. And they represented the actual representation of the average age of undergraduate students in UUM. In addition, half of them were Malays and almost 40.0% of the respondents were Chinese. Definitely, majority of the undergraduate students were single.

**Table 1: Profile of sample**

<b>Demographic</b>	<b>Class</b>	<b>Frequency</b>	<b>Percent (%)</b>
<b>Gender</b>	Male	69	12.55
	Female	355	87.45
<b>Age (year)</b>	18 – 90	56	13.90
	21 – 23	300	74.30
	24 – 26	46	11.40
	More than 27	2	0.50
<b>Ethnic</b>	Malay	210	52.00
	Chinese	161	39.90
	Indian	25	6.20
	Others	8	2.00
<b>Marital status</b>	Single	397	98.30
	Married	7	1.70

### **5.2 Relationship between Emotional Intelligence Dimensions**

The study of relationship among the dimensions of EI attempted to understand how each of them reacted to each other. The measurement based on the Pearson Product-Moment correlation coefficient was calculated and the results are tabulated in Table 2. The range of these strengths was from -0.132 to 0.716 excluding the diagonal value of unity. Any value that was close to either -1 or 1 indicated that the strength of relationship between two dimensions was strong while correlation value that was close to 0 indicated weak relationship. Pair of dimensions that were considered strong and significant correlation are marked with asterisks “\*” depending on the type I error,  $\alpha$ . From Table 4, all dimensions were significantly correlated except the motivation and social skills that did not show strong relationship. These results indicated that the potential first class students did not show good signal of the ability of motivating themselves to managing relationship with others such as understanding the emotions of their friends. Some correlation values in Table 4 showed positive sign which indicated the same direction of relationship. For example, the positive coefficient between self awareness and empathy ( $r = 0.701$ ) may reflect that if a student possesses high ability to recognize and understand his moods, emotions and drives hence he will show some capabilities to understand others’ feelings. But, some correlation values were negative which indicated opposite direction of relationship such as between self awareness and motivation ( $r = -0.132$ ). This result reflected that as one has the capacity of being aware about one’s own feeling, one often becomes aware of oneself but not necessarily enhances one’s motivation of one’s surroundings. In addition, the result indicated negative significant correlation between motivation and empathy ( $r = -0.108$ ), which showed that the higher the motivation among potential students, the lower their empathy level towards others.

Table 2 Correlations between EI Dimensions

	Awareness	Regulation	Motivation	Empathy	Social skills
Awareness	1	.365**	-.132**	.701**	.716**
Regulation		1	.511**	.319**	.419**
Motivation			1	-.108*	-.034
Empathy				1	.696**
Social skill					1

\*\* Correlation is significant at the 0.01 level (2-tailed).

### 5.3 Relationship between Psychographic Attributes among Potential First Class

The strength of relationship among the psychographic characteristics which were measured in the Pearson coefficient is simplified in Table 3. The range of the strengths was from -0.003 to 0.618 excluding the diagonal value of unity and all the significant correlations are marked with asterisk “\*”. The table shows that time management characteristic did not correlate with other psychographic characteristics. Such result reflected students’ attitude may not be directly affected by the way they manage their time.

Table 3 Correlation between Psychographic Characteristics

	Achievement	Competitive	Self Efficacy	Time Management	Leisure	Mastery
Achievement	1					
Competitive	0.478**	1				
Self Efficacy	0.525**	0.523**	1			
Time Management	-0.003	0.076	0.029	1		
Leisure	0.618**	0.409**	0.493**	0.050	1	
Mastery	0.396**	0.509**	0.501**	0.177**	0.265**	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

### 5.4 Differences of the effect of Age on the Psychographic Characteristics

Another MANOVA investigation found that there were significant differences between age groups based on self efficacy subscale (F=4.587; p-value=.004), in which students over 30 years old have higher self-efficacy than the other three groups. Non-significant results between the groups of age were obtained from the achievement subscale (F=1.952, p-value=0.121), competitiveness subscale (F=1.131,

p-value = 0.336), mastery skills subscale (F=1.216; p-value = 0.304), time management subscale (F = 0.944; p-value = 0.419), and leisure attitude subscale (F=1.653; p-value=0.177). As a summary, the details are listed in Table 4.

Table 4 Result of MANOVA for Age Factor

Source	Variable	Mean Square	F	Sig
Age	Achievement	0.599	1.952	0.121
	Competitiveness	0.426	1.131	
	Mastery Skills	0.245	1.216	0.304
	Self Efficacy	1.701	4.587	0.004
	Time Management	0.378	0.944	0.419
	Leisure Attitude	0.713	1.653	
				0.336
				0.177

### 5.5 Differences of the effect of Ethnic on the Psychographic Characteristics

Results of the investigation among the four ethnic groups are displayed in Table 5. Significant differences between ethnic groups were recorded for achievement subscale (F=23.108; p-value < 0.000), in which Malay students have greater mean scores than the other three groups. Also, it was found in competitiveness subscale (F=17.823, p-value < 0.000), in which other minority groups scored greater mean than the others, self efficacy subscale (F=19.430; p-value < 0.000), in which the results of Pos-hoc Tukey test showed that the Malay group scored significantly higher than the other three groups, and leisure attitude subscale (F=27.381; p-value < 0.000), in which the group of minority ethnics scored higher mean than the other three ethnic groups. Meanwhile, non-significant differences among the ethnics were discovered in mastery skills subscale (F=1.768; p-value = 0.153) and time management subscale (F=0.933; p-value = 0.425).

Table 5 Result of MANOVA for Ethnic Factor

Source	Variable	Mean Square	F	Sig
Ethnic	Achievement	6.132	23.10	0.000
	Competitiveness	5.976	17.82	
	Mastery Skills	0.355	1.768	0.153
	Self Efficacy	6.506	19.43	0.000
	Time Management	0.374	0.933	0.425
	Leisure Attitude	9.922	27.381	
				0.000

### 5.6 Relationship between EI and Psychographic Characteristic

The similar Pearson Product-Moment correlation coefficient was used for measuring the correlation between EI and psychographic characteristics. The computed coefficient obtained the estimated coefficient as  $r = 0.503$  (p-value < 0.000) which was significant. Such finding showed that the EI and psychographic characteristics were closely related in describing the segmentation of students.

Table 6 Correlations between Emotional Intelligence and Psychographic Characteristics

	<b>Emotional Intelligence</b>	<b>Psychographic Attributes</b>
<b>Emotional Intelligence Pearson Correlation  Sig. (2-tailed)</b>	<b>1</b>	<b>.503(**) .000</b>
<b>Psychographic Attributes Pearson Correlation  Sig. (2-tailed)</b>	<b>.503(**) .000</b>	<b>1</b>

\*\* Correlation is significant at the 0.01 level (2-tailed).

## 6. CONCLUSIONS AND DISCUSSION

In the previous sections of this study, emotional intelligence, psychographic and demographic variables were shown as essential factors identifying and reflecting students' success at the university. Emotional intelligence primarily determines the students' success at university. Furthermore, gender, age, ethnic, and psychographic variables such as self efficacy, time management and motivation are important determinants of the student success at the university. The sample of the study consisted of 424 university students from one university in Kedah State. As a conclusion, this study reported the result of the descriptive profile of the respondents. Outcomes of the study describe some characteristics of psychographics on the prospective students to assist in providing coaching and mentoring – by insuring students suited to their needs and desires for their study. Using those factors as a base, a researcher can determine how a particular group of students will respond to the intention of furthering their study. Thus, psychographics can offer greater insights into student behavior.

Advantages of studying psychographics:

1. Better inputs for the design of training that the students will like.
2. Lesser cost spent on scouting the right choice of candidate, as it is now more specific.
3. Easier to target a specific type of student and enhance a greater degree of student satisfaction.

Furthermore, in terms of study limitation, this study was limited to students from one university and focused only on potential first class students. Therefore, studies conducted at other universities or with students studying in other universities could likely yield different results. In addition, more than 87.45% of the respondents of this study were female. The number of female students who participated in this study was more than male students, this is not surprising since more females are enrolled in

Malaysian educational institutions compared to male and that females averagely performed better than males. Therefore, gender is an issue in all studies conducted in college population in Malaysia. This is definitely a very important area for any future research on Malaysian students. Another limitation of this study is the fact that quantitative data is taken through self-report measures; therefore, there is ample chance that participants chose answers which were not their true experience (Creswell, 1994). From this study, we found out that our potential first class students are emotionally and psychologically prepared to undertake postgraduate studies in the future. With proper guidance, the prospective students are likely to succeed in their academic performance, emotion intelligence, and enhance psychological attributes at postgraduate level. As for recommendations for future research, this study recommends and proposes the following: Firstly, based on the limitation of the current study, ample opportunities are present for future research while using the same design and framework. Future researches should look into and study all public and private universities. Secondly, the study made effective use of quantitative methodology but would recommend that future researches use qualitative methods to shed light on student's perception of the effective strategies at the university. Finally, the study recommends on enlightening the students and the workshop members of the educational sector on the importance of emotional intelligence through the provision of emotional intelligence skills in the curriculum and the facilitation of emotional intelligence training sessions. In conclusion, as colleges and universities continue to develop courses and programs, the need to better understand factors that contribute to student success becomes increasingly important. Developing an effective response to this challenge will require educators to identify those factors which might increase student success. Research studies continue to uncover the importance of emotional intelligence, psychological factors and demographic factors as they relate to success students at university. Therefore, researchers should continue studying emotional intelligence factors, psychological constructs and demographic factors in order to develop more effective strategies which could improve student success, especially for university students.

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**Extended TAM Model:  
Impact of Convenience on Acceptance and Use of Moodle**

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**ABSTRACT**

The increasing online access to courses, programs, and information has shifted the control and responsibility of learning process from instructors to learners. Learners' perceptions of and attitudes toward e-learning constitute a critical factor to the success of such system. The purpose of this study is to take Technology Acceptance Model as a foundation and include perceived convenience as a new external factor in predicting students' perceptions about the acceptance and use of Moodle, an open source e-learning system. A total of 47 college students and 35 senior high school students participated in this research. The results indicated that perceived convenience had a direct effect on perceived usefulness. Perceived ease of use, perceived convenience, and perceived usefulness had significantly positive impact on attitude toward using Moodle. Continuance intention to use Moodle was directly influenced by attitude toward using Moodle. Several practical implications of the present study are offered at the end of paper.

Keywords: e-learning, perceived convenience, TAM

**1. INTRODUCTION**

The rapid development of information technologies has been acknowledged as bringing about a significant change in education institutions. Internet-based electronic learning (E-learning) as an alternative education form has both created an innovative learning environment and provided learners with an exceptional opportunity to interact with others. With e-learning systems, online delivery of instruction and supply of electronic resources of knowledge can be performed without limitation of time and space. Sánchez and Hueros (2010) indicated that e-learning environments helped pedagogical systems cross spatial and temporal barriers, fostered meaningful learning, and provided flexibility and convenience. Yoon and Kim (2007) further suggested that perceived convenience would be considered as a key determinant of the users' acceptance and use of Information Technology.

Individual acceptance and use of IT have been considered in identifying the success of e-learning systems (Dasgupta, Granger, & McGarry, 2002). Results of several studies (Lin & Lu, 2002; Lou, Luo, & Strong, 2000; Moon & Kim, 2001; Venkatesh, 2001) have empirically verified the acceptance technology model (TAM) proposed by Davis (1989) as a powerful and valuable instrument in predicting individual acceptance and use intentions of particular innovative technology. In this study, the

research model draws on TAM and integrates the external variable, perceived convenience, to predict learners' acceptance behavior and use intentions of an e-learning system, Moodle.

## **2. THEORETICAL BACKGROUND**

### **2.1 Technology Acceptance Model (TAM)**

Based on the theory of reasoned action (TRA) (Fishbein & Ajzen, 1975), Davis (1989) proposed the technology acceptance model (TAM). TAM was developed specifically for investigating the impact of technology on user behavior. The model proposes that both perceived usefulness and perceived ease of use of the technology are the two key factors that influence the individual's attitude toward using the technology. Perceived usefulness means that the user believes that the use of technology will improve his or her performance, while perceived ease of use refers to the belief that using the technology will be free of effort (Davis, 1989).

Perceived ease of use of a system is considered to influence perceived usefulness of technology. Both perceived ease of use and perceived usefulness have effects on the use of technology. A number of studies have used the TAM model to test user acceptance of information technology, for example in e-mail (Gefen & Straub, 1997; Szajna, 1996), e-collaboration (Dasgupta et al., 2002), websites (Koufaris, 2002; Lin & Lu, 2002; Van der Heijden, 2003), online shopping intentions (Van der Heijden, Verhagen, & Creemers, 2003), etc.

With the development of Information Communication Technology, TAM has been applied in numerous studies to examine learners' acceptance of e-learning systems (Chen, Lin, Chen, & Yeh, 2007; Liaw, Huang, & Chen, 2007; Ngai, Poon, & Chan, 2007; Ong & Lai, 2006; Ong, Lai, & Wang, 2004; Sánchez & Hueros, 2010; Šumak, Heričko, Pušnik, & Polančič, 2011; van Raaij & Schepers, 2008), online learning community (Liu, Chen, Sun, Wible, & Kuo, 2010), the wireless LAN (Yoon & Kim, 2007), PDAs (Chang, Yan, & Tseng, 2012), blended learning (Tselios, Daskalakis, & Papadopoulou, 2011). The results of these studies indicated that TAM could efficiently predict and explain users' acceptance of information technology.

Though perceived usefulness and perceived ease of use are the key determinants for an individual to accept and use information technology, other external variables can also affect users' acceptance of information technology (Moon & Kim, 2001). Hence, researchers call for the incorporation of external factors in studies to enhance the TAM model (Legris, Ingham, & Collerette, 2003; Venkatesh & Davis, 2000).

In the studies of computer self-efficacy, the results showed a positive causal relationship between computer self-efficacy and perceived usefulness and perceived ease of use (Venkatesh & Davis, 1996; Venkatesh, 2001; Wang, Wu, & Wang, 2009). Results of other studies on perceived convenience (Yoon & Kim, 2007), critical mass effect (Lou et al., 2000), usage (Selim, 2003), technical support (Ngai et al., 2007), perceived playfulness (Moon & Kim, 2001; Roca & Gagné, 2008) also demonstrated there exists a significant relationship among these external variables, ease of use, and usefulness.

### **2.2 The Concept of Perceived Convenience**

Convenience, a multidimensional construct, refers to an individual's preference for convenient product and services. Time and effort saving are the two key factors

that determine whether a product or service is convenient (Berry, Seiders, & Grewel, 2002). Brown (1989, 1990) proposed five dimensions of convenience: time, place, acquisition, use, and execution. On the basis of Brown's work, Yoon and Kim (2007) excluded the acquisition and use dimensions in their study examining convenience of the wireless LAN. The reason is that acquisition is not definitely related to intention to use technology, and the use dimension is similar to ease of use in TAM. Therefore, they defined three dimensions of convenience: time, place, and execution. In Cheolho and Sanghoon's (2007) study, they used four variables: perceived usefulness, perceived ease of use, behavioral intention, and perceived convenience to investigate a ubiquitous wireless LAN environment. The results indicated that perceived ease of use has a positive impact on perceived convenience. In a discussion-oriented online course study, Poole (2000) found out that students participated in online discussions at time and place most convenient to them. Another study done by Murphy and Collins (1997) found similar results.

The results of To, Liao, and Lin's (2007) study revealed that convenience affects consumers' shopping intention. Gupta and Kim (2006) found convenience has a positive impact on online shopping intention as well. A recent study on investigating English learning through PDAs done by Chang et al. (2012), showed significantly positive effects of perceived ease of use on perceived convenience, perceived convenience on perceived usefulness, and perceived convenience on attitude toward using PDAs. On the basis of studies of Chang et al. (2012) and Yoon and Kim (2007), we define three dimensions of perceived convenience, namely place, time, and execution, in the present study.

### 3. RESEARCH MODEL AND HYPOTHESES

Perceived convenience is one of the advantages identified in online learning. Therefore, perceived convenience would be considered as a salient determinant of the individual's acceptance and use of information technology. In the present study, perceived convenience was employed for extending the model of TAM. The research model and hypotheses, as shown in Figure 1, were proposed to explain how exogenous variables affect user acceptance process in TAM. A path analysis is applied to explore the empirical strength or the relationship in the proposed model.

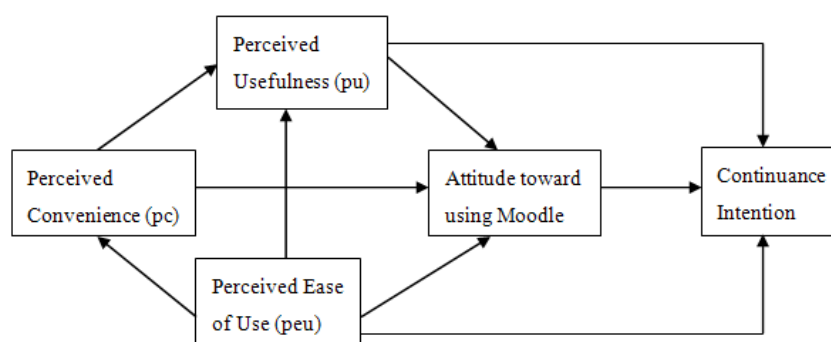


Figure 1 Research model

Chang et al. (2012) and Yoon and Kim (2007) found that perceived ease of use had a positive influence on user's perception of convenience in their studies. This leads to the following hypothesis:

H1. Perceived ease of use positively affects perceived convenience of using Moodle.

In TAM, two variables: perceived ease of use and perceived usefulness affect the attitude and behavioral intention of users. Perceived ease of use positively affects perceived usefulness; perceived usefulness and perceived ease of use positively affect attitude toward using; perceived usefulness and attitude toward using positively affect intention to use. The causal relationship that exists between these variables has been confirmed by a number of studies (Chang et al., 2012; Davis, 1989; Kuo & Yen, 2009; Moon & Kim, 2001; Venkatesh & Davis, 1996). Studies done by Ong et al. (2004) and Yoon and Kim (2007) found perceived ease of use has a positive impact on intention to use. Thus, we propose the following hypotheses:

- H2. Perceived convenience positively affects perceived usefulness.
- H3. Perceived ease of use positively affects perceived usefulness.
- H4. Perceived ease of use positively affects attitude toward using Moodle.
- H5. Perceived usefulness positively affects attitude toward using Moodle.
- H6. Perceived convenience positively affects attitude toward using Moodle.
- H7. Perceived ease of use positively affects continuance intention to use Moodle.
- H8. Perceived usefulness positively affects continuance intention to use Moodle.
- H9. Attitude toward using Moodle positively affects continuance intention to use Moodle.

## **4. METHODOLOGY**

### **4.1 Data Collection**

The data collection for this study was conducted at a technological university and a vocational high school in Taiwan. In total, 82 usable questionnaires (47 from technological university and 35 from vocational high English majors) were used for analyses.

### **4.2 Instrument**

The questionnaire, using five-point Likert-style scale ranging from (1) “strongly disagree” to (5) “strongly agree” was employed to collect data for constructs of the research model. For the measurement of the latent variables in the model, multiple items from the previous studies were modified for the present study. The measurements of perceived convenience were adapted from Yoon and Kim (2007). And the measurements of perceived ease of use, perceived usefulness, attitude toward using and continuance intention to use were adapted from Davis (1989).

## **5. RESULTS**

### **5.1 Measurement Scales of the Constructs and Items**

The reliability analysis was conducted in order to ensure the internal consistency of the items used for each variable. Nunnally and Bernstein (1994) recommended that Cronbach’s alpha is reliable if its values is at least 0.7. The value of Cronbach’s alpha for the five constructs in this study is above 0.8. Hence, the results demonstrate the questionnaire is a reliable measurement instrument.

### **5.2 Modeling Testing Results**

The linear regression analysis was used to validate the research model by examining the path coefficients. T-tests were applied to assess the significance of these path coefficients. Figure 2 illustrates the standardized path coefficients and coefficients of determination ( $R^2$ ) for each dependent construct.



The results showed that the impact of perceived ease of use on perceived convenience ( $\beta=0.575$ ,  $P<0.001$ ) and the impact of perceived convenience on perceived usefulness ( $\beta=0.638$ ,  $P<0.001$ ) were significant, but perceived ease of use had no significant effect on perceived usefulness ( $\beta=0.152$ ,  $P>0.05$ ). Hypotheses 1 and 3 were supported but hypothesis 2 was not supported.

Three constructs, perceived ease of use, perceived usefulness, and perceived convenience, positively affected attitude toward using Moodle ( $\beta=0.393$ ,  $P<0.001$ ;  $\beta=0.254$ ,  $P<0.05$ ;  $\beta=0.31$ ,  $P<0.01$ ). Thus, hypotheses 4, 5, and 6 were supported.

Paths that affect continuance intention to use Moodle included perceived ease of use ( $\beta=0.147$ ,  $P>0.05$ ), perceived usefulness ( $\beta=0.162$ ,  $P>0.05$ ), and attitude toward using Moodle ( $\beta=0.462$ ,  $P<0.01$ ). Hypothesis 9 was supported, but hypotheses 7 and 8 were not supported.

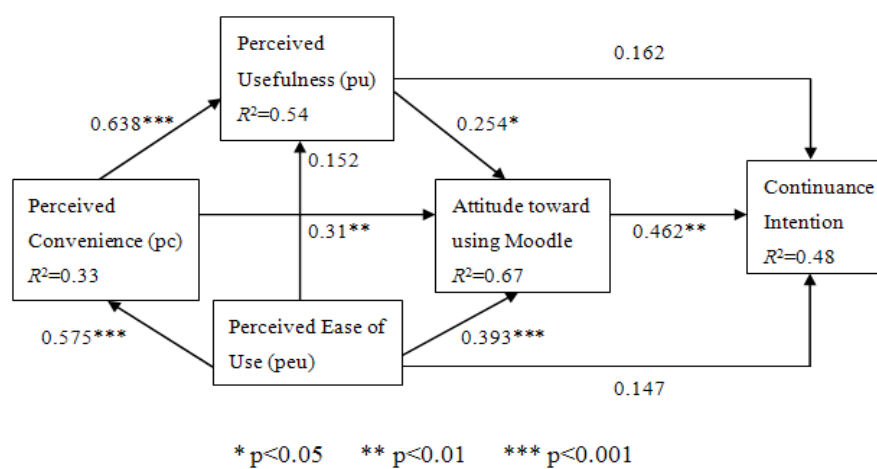


Figure 2 Results of the research model

## 6. DISCUSSION AND CONCLUSIONS

The goal of this research, which is based on the TAM model, was to add perceived convenience to the model and explore the willingness of users to adopt the use of Moodle. The results revealed the positive direct effect of perceived ease of use on perceived convenience, which is aligned with outcomes from previous studies (Chang et al., 2012; Yoon & Kim, 2007). In line with their studies, our model confirm that perceived convenience has a direct effect on perceived usefulness, meaning that the more convenient the learner feels the Moodle system is, the more useful one perceives it to be.

Hypothesis 3 postulated that the direct effect of perceived ease of use on perceived usefulness is insignificant, which is opposed to several studies (Chang et al. 2012; Liu et al., 2010; Liu, Liao, & Pratt, 2009; Tselios et al., 2011; Šumak et al., 2011; van Raaij & Schepers, 2008). A plausible reason for the lack of support for hypothesis 3 is that the learners in the present study may not see ease of use as a critical factor that will help them improve their learning in the process of using Moodle.

Consistent with previous studies (Chang et al., 2012; Masrom, 2007; Ong et al., 2004; Saadé, Nebebe, & Tan, 2007; Šumak et al., 2011; Tselios et al., 2011;),

hypotheses 4, 5, and 6 referring to the relationship between perceived ease of use and attitude (H4), perceived usefulness and attitude (H5), and perceived convenience and attitude (H6) showed significantly positive results.

Hypotheses 7 and 8 referred to the impact of perceived ease of use on continuance intention to use Moodle (H7) and perceived usefulness on continuance intention to use Moodle (H8). Both perceived ease of use and perceived usefulness had no significant effect on continuance intention to use Moodle. This result is not consistent with the hypothesis of TAM, but it echoes the findings of Liao, Tsou, & Huang (2007) and Kuo & Yen (2009). One of the possible reasons of this inconsistency can probably be attributed to the low frequency of use of Moodle by the learners. The other possible reason would be due to the fact that users are urged and required to use Moodle by their instructors.

The current study contributes to the validation of the extended TAM model by introducing and confirming the influence of perceived convenience as an external variable on the users' attitude and continuance intention to use Moodle. The results of the study reveal that perceived convenience, perceived ease of use and perceived usefulness are three important determinants of attitude toward using Moodle, whereas perceived ease of use is the most significant determinant that directly affects attitude. The findings also illustrate user's continuance intentions for using Moodle is neither a result of users' perceptions about how easy it is to use the system, nor perceptions about how useful the system will help users in their learning process.

The current study is not without limitations. First, the use of Moodle is mandatory during the course, which may influence users' perceptions of how useful the system is in helping them in their learning. Follow-up studies should examine users' Moodle using frequency and behavior outside the classroom and focus on identifying the motivational factors that influence learners' participation. Second, participants in this study are college and high school students, but we did not analyze their demographic data. Future studies including categories of gender, age, previous Moodle using experiences should be conducted to obtain a deeper understanding of the factors influencing attitude and continuance intention toward using Moodle.

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**Parental Expectations of International Pre-School Management in  
Bangkok Metropolis:  
A Case Study of Mulberry House International Pre-school**

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**ABSTRACT**

The number of international schools has been increasing in Thailand because of high demand from parents who expect schools to provide children with a well-rounded education. This study examined how parents in an international school expected the director to manage their school and rank the expectations of parents at Mulberry House International Pre-school management in four aspects: academic, student activities, personnel, and general management. Questionnaire was employed as the research instrument for collecting data. Results provided a set of school management that parents' expectations of Mulberry House International Pre-school management were at a high level in all four aspects. Academic management was the most important aspect followed by general, personnel, and student activities management. It also provides the educational knowledge of international pre-school management. Results of the study can contribute the practical approaches of educational management.

Keywords: Parental Expectations, International Pre-School, School Management

**1. INTRODUCTION**

International schools have been sprouting up all over Thailand because the number of expatriate families continues to grow and these families need to find schools for their children. Parents expect that their children will receive much more attention, more effective educational system and will experience different cultures and languages. To serve the demand of these parents, schools' management needs to pay attention to parents' expectations for their children.

Scholars on education pay more attention to understand parents' expectations which is related to effective school service. Ackerman and Barnett (2006) pointed out that the school management assists to increase the educational effectiveness for high quality school service. A good school management can build up parents' retention, enhances parents' confidence, and maximizes parents' satisfaction. Nevertheless, Blodgett, Granbois, and Walters (1993) stated that the poor quality of school management involve in parents' expectations. This can cause a great loss for educational businesses. Failure to achieve what people expect may lead to clients' dissatisfaction, negative image, unreliable and increasing costs. As a result, school management is considered as the heart of parents' expectations.

The awareness of parents' expectations will support the school in developing its management and increasing its enrollment. Gill and Reynolds (1996) suggested that high

expectations of parents enhance high standard for educational management. This means that parents are expecting the schools to enhance their performance as to provide high quality educational management. It is essential for the researcher to explore the parental expectations, as inefficient school management be able to generate a negative image of the international schools business.

In order to improve the best result in international school management, Mulberry House needs to know the expectations of parents on the academic, student activities, personnel, and general management. The benefit of these indicators can lead to relate school business to develop their strategies and services.

## **2. METHODOLOGY**

The parents who enroll their children at Mulberry House International Pre-school were recruited as the respondents. Sixty-two parents were selected as a sample group to participate in the study; however, at the end of the survey, a number of fifty-four questionnaires were returned. This was due to the fact that some parents returned to their country and some moved their children to another school.

A questionnaire was employed as the research instrument for collecting data. The respondents were asked to express their expectations for school management. The questionnaire was in English because English is the medium of communication at Mulberry House. In the first part, the parents were asked to provide their personal information. The second part asks the parents to select the appropriate answer according to their expectations. Twenty-seven questions with a five-point Likert type scales from the highest (5), high (4), average (3), low (2), to the lowest expectations (1) were designed to rate levels of parents' expectations. In this study, the researcher applied the mean of the standard ranking scale responses of Best (1981) who studied the ranking scale to use in education to measure the levels of parents' expectations of Mulberry House.

The purpose of this pilot study was to examine the parents understanding of international school management on four aspects: academic, student activities, personnel, and general management and their opinion. The researcher interviewed five respondents who were willing to response questions relating to the school management at Mulberry House. All information acquired, as well as the observation and experience of the researcher as a teacher assistant at Mulberry House was used as a guideline to design the questionnaire.

The frequencies and percentages were used to calculate and analyze the personal data in part 1. Means were used to analyze the levels of parents' expectations towards school management in four aspects: academic, student activities, general and personnel management in part 2. The data mining were analyzed using SPSS version 12 statistical software package (Statistical Package for the Social Sciences).

## **3. RESULTS AND DISCUSSION**

### **3.1 Academic Management**

The study results indicate that parents expect a small class size which the number of students do not exceed 15 at the highest level (4.59). Most parents expect teachers to look after their children very well. So, when classes are small, teachers are able to engage children in more stimulating, responsive, and supportive interactions, and they are also able to provide

more individualized attention. The finding supports the study undertaken by Bosah (1997), who discussed the improvement of school plant provision in Nigeria. He suggested that the effectiveness of classroom size can be judged by the number of students and teachers using the classroom. This assumes that parents need the school to take good care of their children closely and enhance their children's knowledge in order to help them achieve the highest quality of education.

Table 1: Means of Parents' Expectations towards Academic Management

	Academic Management	Mean	Level
1.	School curriculum (e.g. subject content, learning activities) is appropriate to develop student learning.	4.48	High
2.	School curriculum emphasizes English communication.	4.52	Highest
3.	Students achieve basic skills requirements. (e.g. Nursery: counting the number from 1 to 20, Kindergarten1: reciting the alphabet A-Z, Reception: spelling their name)	4.22	High
4.	Students are able to use basic computer skills. (e.g. turning on-off, clicking mouse, controlling cursor)	3.22	Average
5.	Teachers use various teaching methods. (e.g. games, CDs, tapes)	4.31	High
6.	Teachers prepare teaching materials well. (e.g. pictures, cards, charts)	4.41	High
7.	Teachers prepare well in a weekly plan.	4.37	High
8.	Classroom size is not over than 15 students.	4.59	Highest
	Total	4.27	High

### 3.2 Student Activities Management

Parents highly expect for student activities management (3.93) extra school activities, e.g. drawing, swimming, cooking that enhance student learning skills. Parents believe that extra school activities will stimulate their children's development by encouraging skills and knowledge that they do not gain in the classroom. This finding is similar to Limsala's research (2003) focusing on parents' expectations for Udomwittayanukul School management. He found that parents had a high level of expectation in student activities because the focus on a special task or skill enhances a students' overall learning. Hence, Mulberry House should provide a suitable extra activity program for students at the age of 2-5 years.

Table 2: Means of Parents' Expectations towards Student Activities Management

	Student Activities Management	Mean	Level
9.	Extra activities (e.g. drawing, swimming, cooking) are provided to enhance students' learning skills.	3.93	High
10.	Other foreign languages (e.g. Chinese, Japanese, Korean, French) are offered to strengthen students' language skills.	3.35	Average
11.	Field trips (e.g. zoo, park, museum) are organized for students to expose them to real experiences.	3.48	Average
12.	Parents participation in school events and students' activities on the national holidays. (e.g. Loy Krathong, Halloween, Christmas)	3.74	High
13.	Students participate in the show at the end of academic year.	3.40	Average
	Total	3.58	High

### 3.3 Personnel Management

The findings show that the parents' expectations for personnel management is at a high level (3.77). The parents' expectations regarding native English speaking teachers e.g. British, American, Canadian, Australian is at the highest level (4.51). This may be because these

parents believe that exposure to native English through their teachers enables their children to develop English accents. This study supports Penn's study (1986) on non-Catholic parents who enrolled their children in Catholic secondary schools. He found that native speaking teachers were highly disciplined and more able to assist special needs children.

Table 3: Means of Parents' Expectations towards Personnel Management

	<b>Personnel Management</b>	<b>Mean</b>	<b>Level</b>
14.	Teachers have at least five years teaching experience.	4.29	High
15.	Teachers are trained (e.g. basic first aid, teaching, Thai culture) at least once a year.	3.79	High
16.	Teachers are native English speakers. (e.g. British, American, Canadian, Australian)	4.51	Highest
17.	Teacher assistants are rotated in order to develop their working experiences each year.	3.12	Average
18.	Thai teaching assistants are provided to facilitate in each classroom.	3.77	High
19.	School director is an experienced foreigner or Thai.	3.48	Average
20.	School director gives full support to staff. (e.g. bonus, promotion)	3.42	Average
	<b>Total</b>	<b>3.77</b>	<b>High</b>

### 3.4 General Management

The results show that the parents' expectation for general management is at a high level (3.80). Parents' expectations for cleanliness and space environment are at the highest level (4.53). According to parents, the school should maintain clean classrooms and a safe learning environment. The cleanliness of the school not only lowers the threat of the spread of illness, but also conveys a caring message to the students and teachers. It is possible that parents believe the school needs to often change board displays to draw attention to children. The children can gain experiences from new environment. This is similar to Yeman's study (1978) who studied parent attitudes related to variables in elementary schools. He found that most parents expected schools to have nice classroom environments because children are happier and more enthusiastic to come to school if classrooms are both welcoming and stimulating.

Table 4: Means of Parents' Expectations towards General Management

	<b>General Management</b>	<b>Mean</b>	<b>Level</b>
21.	School director has a good relationship with parents.	4.11	High
22.	School administrator has a regular contact with parents.	4.44	High
23.	Environment provides for learning activities. (e.g. cleanliness, space)	4.53	Highest
24.	Food is offered according to individual needs. (e.g. dietary restrictions due to religion, medical issues)	3.72	High
25.	School tuition fee are reasonable. (e.g. 70,000 baht a term)	3.77	High
26.	School's parking areas are adequate.	3.20	Average
27.	Medical check-ups are provided once a year.	2.81	Average
	<b>Total</b>	<b>3.80</b>	<b>High</b>



#### 4. CONCLUSION

Parents' expectations of Mulberry House International Pre-school management are at high levels in all four aspects (academic, student activities, personnel, and general management). The study also found that the most important aspect of parents' expectations for Mulberry House School management is academic, followed by the general, personnel, and student activities management. The school should pay attention to each aspect in order to satisfy parents and maintain their loyalty. The high levels of expectations will assist Mulberry House to increase parent satisfaction and lead in increasing enrollment and growth of the school.

#### 5. ACKNOWLEDGEMENTS

This paper could not have achieved the goal without the support and encouragement of a number of people. I very much appreciate the assistance provided to me by International College for Sustainability Studies, Srinakharinwiroj University for supporting me a grant. I would particularly like to thank my colleagues at language centre at Srinakharinwiroj University for their kind support.

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## Education II

13:00-14:30, December 15, 2012(Room 1)

**Session Chair:** *Prof. Val Chapman*

**260: Child Abuse by Teachers in Mainland Chinese Primary and Secondary Schools**

*Xuan Li*

*University of Cambridge*

*Zaoli Zhang*

*Northwestern University*

**103: The Roles of Parents and Institution in Students Learning**

*Kan Soh*

*Albukhary International University*

**108: Enhancing the Employability of Disabled Undergraduates**

*Val Chapman*

*University of Worcester*

*Judith Waterfield*

*University of Plymouth*

**113: Policy Issues, Trends and Challenges Facing Aspiring Educational Managers in the Gauteng Province: South Africa**

*Thulani Zengele*

*University of South Africa*

**127: A Review on Mathematical Problem Solving Skills**

*Betsy Guat Poh Lee*

*The University of Nottingham*

*Malaysia Campus*

## **Child Abuse by Teachers in Mainland Chinese Primary and Secondary Schools**

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### **ABSTRACT**

Child abuse has aroused increasing attention in various societies, including Mainland China. However, the focus of attention is often on domestic violence, while physical and psychological maltreatment in school by teachers has not been discussed in the academia or in government reports, despite the extensive evidence that child abuse still exist in Mainland Chinese primary and secondary schools.

The present paper summarizes academic and journalistic evidence of child abuse in Mainland Chinese primary and secondary schools, explores social, legal and cultural roots of such incidents and compares them with those in other cultures and societies. Based on existing literature, implications for such incidents on child development and education are discussed, and possible solutions from public policy perspectives to tackle such issue from psychological and sociological perspectives are proposed.

**Keywords:** teacher-student relationship, corporal punishment, psychological maltreatment, developmental consequences, Mainland China

## The Roles of Parents and Institution in Students Learning

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### **ABSTRACT**

This qualitative research paper tends to investigate the roles of parents which influence the students' learning at a higher learning institution in Malaysia. The international university focuses on humanitarian values whereby all the students from the low socio-economic families are given a full-fledged scholarship during their studies in the university. A special feature of the university is that the population comprises 80% of international students from 46 countries. The participants are new Intensive English Programme (IEP) students who have to adapt themselves in the new environment. Functional and Instrumental Independence Theories (Chickering & Reisser, 1993; Hoffman, 1984) are employed to measure the autonomy of students in their learning and community service. Survey forms were distributed to 200 students to secure preliminary opinions about the roles of parents when they are afar from their motherlands. After that, interview questions were formulated based on the survey results and interviews were conducted on individual basis. The study has significantly proved that the strong bond between parent-children has helped students not only to become self-regulated learners but also adapt to the new environment in a short while.

Keywords: Qualitative research, Functional and Instrumental Independence Theories, Autonomy, Humanitarian Value

## ENHANCING THE EMPLOYABILITY OF DISABLED UNDERGRADUATES

Dr Val Chapman <sup>a\*</sup>, Ms Judith Waterfield <sup>b</sup>

### ABSTRACT

In the last decade of the 20th century Higher Education (HE) institutions in the UK were focused on raising the participation and retention of disabled students. Government funding and disability legislation supported this changing culture.

A recent Department for Work and Pensions (DWP) Report (Stayce, 2011) showed that, across the general population, 50% of disabled people are unemployed compared with less than 9% of non-disabled. The latest Report on the First Destinations of 2009/2010 Disabled Graduates (AGCAS, 2012) paints a more positive picture revealing that generally similar proportions of disabled and non-disabled graduates succeed in gaining graduate level employment; but some disadvantage still exists with 11.4% of disabled undergraduates remaining unemployed as compared with 8.8% of their non-disabled peers.

There is a moral and financial imperative to reduce discrimination in respect of disabled student entry into employment where currently disabled people are under-represented in the general and professional workforce.

This workshop features two research projects, a National Teaching Fellowship Scheme (NTFS) funded Project, 'Employability and Disability', led by the Centre for Inclusive Learning Support at the University of Worcester (UK), 2009/10, and a Centre of Excellence for Professional Placement (CEPPL) disability strand project at the University of Plymouth, 2007/10.

The NTFS project offered a sector-wide initiative that aimed to reduce discrimination and enhance disabled graduates' employability. It sought to achieve this by equipping disabled students with the skills to match employability competencies (Kubler et al, 2006), largely through enhancing academic and careers staff's knowledge and understanding of the potential challenges that disabled students may face in developing such skills, and in offering possible solutions through adaptations to teaching.

The main outcome of the project was a web-based resource, 'usemyability' ([www.usemyability.org](http://www.usemyability.org)). This website provides bespoke information and a searchable database for three discrete user groups: academic and careers guidance university staff, employers and work based mentors, and disabled students/graduates. The development of this resource has been underpinned by research into the targeted users' perceptions of employability and disability and consultation with other major stakeholders such as disability professionals. It has been extremely well received across the HE sector.

The CEPPL project provides an audit and guidance tool which draws on research findings in conjunction with students, academic staff and placement providers before and after placement experience.

The development of both resources is underpinned by research into the key stakeholders' perceptions of employability, disability, sector engagement and responsibility. The authors will seek feedback on the usefulness and transferability of both projects and will engage in discussion about the findings and their relevance to delegates from other countries.

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### Employability

<http://www.brookes.ac.uk/services/ocsls/index.html>

### Criteria for acceptance

- All submissions are expected to show awareness of existing literature, research tools, theories and interpretations, and to actively build on this literature.
- All submissions need to show how they relate to the conference theme.
- All sessions should maximise the possible interaction of participants.
- Research papers should present new findings and/or conduct new analysis and interpretation.

They should make use of research tools and theory.

- Research seminars should make use of evidence and/or theory in their discussion.
- The symposium attracts a wide international audience, and English may not be some participants' first or even second language, therefore acronyms, jargon, and localised terminology are not acceptable.

### Draft conference programme

Time	Event
<b>Wednesday 29 August</b>	
12.00	Registration opens      Orientation guided walk
15.00	Conference opening speeches
15.15	Keynote
16.15	Break
16.30	Progress group
18.00	Drinks reception
19.30	Dinner by own arrangement
<b>Thursday 30 August</b>	
09.15	Parallel session 1
10.30	Joint parallel session A
11.10	Keynote 2
12.15	Lunch
13.15	Joint parallel session B
14.25	Process group

- 15.00 Break
- 15.15 Parallel session 3
- 16.25 Parallel session 4
- 18.00 Free time
- 19.30 Optional conference dinner at the Palace Hotel

**Friday 31 August**

- 09.30 Parallel session 5
- 10.40 Process group
- 11.40 Break and Poster session
- 12.15 Final address and closing keynote

## **Policy Issues, Trends and Challenges Facing Aspiring Educational Managers in the Gauteng Province: South Africa**

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### **ABSTRACT**

There is growing concern among educational leadership students that the post graduate qualifications in educational management are no longer considered as a prerequisite when promotional posts are filled. Key union membership has emerged as the main criterion to be considered for promotion to management positions. The involvement of teacher unions during the filling of promotional posts has subsequently been characterized by anarchy, intimidation and nepotism since unions have to protect their members on the excess list. Findings show that teachers in excess of the existing staff establishment in schools get deployed to other schools or district offices and placed in attrition mostly on promotional posts as determined by Resolution 6 of 1998. Resolution 6 states that teachers in excess should be given priority when promotional posts are filled to avoid their retrenchment. This resolution seemingly bears a loop hole when promotions are conducted. Findings also show that unions ignore their observer status and recommend their allies when promotional posts are filled. In this article it is argued that promotional posts filled in this way may lead to ineffective educational management and the subsequent loss of sidelined teachers to other professions. Focus group interviews with teachers and principals and a one on one interview with the Labour Relations Officer were conducted using open ended questions. Verbatim transcribed data were analysed using the constant comparative method. Recommendations focus on impartial filling of promotional posts.

Keywords: Teacher unions, Redeployment, Employment of Educators Act 76 of 1998, Resolution 6, Promotions.

### **1. INTRODUCTION AND BACKGROUND**

Redeployment was introduced in South Africa through the Employment of Educators Act 79 of 1998 (EEA) and Resolution 6 of 1998 as a process aimed at transferring excess teachers from overstaffed to understaffed schools in South Africa after the first democratic elections in 1994. Redeployment was also aimed at ensuring that teachers did not become redundant and subsequently retrenched when learner numbers declined in their schools. According to Resolution 6 of 1998, section 2.4, the decision to redeploy teachers should be based on the operational requirements of each school based on professional qualifications which should be limited to a change in learner enrolment, curriculum changes and a change in the grading of that particular school.

Section 8(2) of the EEA states that redeployment and filling of promotional posts may only be done with the approval of the School Governing Body (SGB) and subsequently endorsed by the Head of Department (HOD). The principal, also acting as the resource person, has to ensure that redeployment and filling of promotional posts



take place accordingly. The purpose is to ensure that teachers can work in an atmosphere that is free of nepotism, discrimination and harassment when promotional posts are filled.

The process of identifying and redeploying excess teachers in Gauteng schools has been problematic as it is linked to the filling of promotional posts. There is a perception that teachers who perform poorly in the classroom and are regularly absent from school, get easily declared in excess and redeployed. As a result, management aspiring teachers with advanced qualifications in educational leadership get sidelined in favour of excess teachers when promotions are made. Resolution 6 of 1998 and Section 3.6 of the EEA states that all teachers should be fairly treated during the redeployment process. Heystek and Lethoko (2001:227) have also asserted that redeployment was a good policy that was poorly managed by the bureaucracy of the Gauteng Department of Education (GDE). The fact that teachers in excess, according to Resolution 6, have to be given priority when promotional posts are filled leaves the GDE with no choice but to consider them for promotion. Sayed (2002:29) refers to this as the “policy gap”, that is understood as the mismatch between policy intention, practice and outcome since those targeted in excess and undesirable, end up being promoted to management positions.

This article reports on the influence of teacher unions regarding the redeployment process and subsequent filling of promotional posts. It further aims to demonstrate how teachers that are redeployed in this way end up filling promotional posts within the GDE. The author is of the view that once stakeholders understand the far-reaching implications of Resolution 6, caution will be exercised when future recommendations for promotions are made.

## **2. THEORETICAL PERSPECTIVE**

This study falls under the field of governance and management in education. Burchell (1993:267-282) describes ‘governance’ as an act for acting on the actions of others. There is an indication in this article that proper implementation of policies is at the heart of participative governance by all education stakeholders. Participatory governance that also includes teacher unions at school level can be highly valued for maximum transparency and the sharing of information in a process that will lead to shared decision-making where feasible. This is the view that is also shared by Schneider (1999:521). Nuijten, (2004:115) suggests that appropriate participation is easier to achieve if the people involved have clear and explicit rights to negotiate decisions and this seems not to be the case with teacher union participation. Therefore a presumption exists that if the stakeholders involved in policy formulation are not the same as those involved in the implementation thereof, confrontation and anarchy may be possible because of the presumed policy gap. Warner (in: Nuijten, 2004:118) states that even where anarchy exists there is some form of governance at work as teacher unions take over by recommending their own key members to run the school.

This study was conducted with an open minded approach as recommended by Gall, Gall and Borg (1999:362) who hold the view that those who are privileged always have an interest in preserving the *status quo* in order to protect their positions. This may be the case when union leaders in management positions recommend the appointment of friends to promotional posts by sidelining those teachers who are suitably qualified to fill such positions. Details of the research methodology are discussed, followed by a report and a discussion on findings. This paper is concluded with recommendations for effective policy implementation.

### 3. METHODOLOGY

This qualitative study was conducted by means of two focus group interviews with teachers, principals, and a one on one interview with the Labour Relations Officer in District 12 of the GDE. During the interviews, one broad, probing and open ended question was asked:

- How do schools handle the filling of promotional posts?

This question was aimed at determining if schools implemented policy as prescribed. The same question was asked during all interviews to enhance the reliability and validity of findings. To increase the possibility that the respondents would reveal their true feelings and opinions, the author followed up with open-ended probing questions. Such questions would promote an in-depth discussion by the research participants during interviews as is supported by Lewis (2000:4). Measor (1985:57) maintains that it is important to build an amiable relationship with the participants because the quality of data is improved when there is an element of trust. The author had previously worked alongside some of the respondents, and they were at ease to provide the author with the required data. Measuring validity and reliability was not difficult because the author was a former school teacher and principal, and shared some of their experiences. Recording was done with the consent of the participants, as suggested by Henning, Van Rensburg and Smit (2004: 73) as an ethical prerequisite.

#### 3.1 The population sample

The study was conducted in the D12 District of the Gauteng Department of Education (GDE) because of the district's representativity in terms of race, ethnicity and demographics. The Gauteng Province is one of 9 Provinces in South Africa and also the business capital. The D12 District consists of about 300 schools. Sampling for this study was purposive. The first focus group consisted of 10 teachers from the 4 neighboring schools. They all had the Advanced Certificate in Educational Management (ACE) from the University of South Africa (UNISA). Four of the teachers were registered for an Honours degree, while 2 were Masters students and one Doctoral student in educational leadership. The second focus group consisted of 8 principals and deputies from 8 neighboring schools. All participants were affiliated to one teachers' union. There was an individual interview with the District 12 Labour Relations Officer (LRO) because of the officer's involvement in all labour related matters in the district including dispute resolution processes. All the participants including the LRO had considerable experience of between 10 and 25 years in education. The teachers expressed concern about their anonymity while the author assured them on ethical issues of anonymity when they gave consent for the recording of the interviews and signing consent forms.

#### 3.2 Data analysis

The grounded theoretical approach was employed in this study while adopting the critical theoretical approach as well. Denscombe (2007:89) indicates that this approach is paramount when there is a need to link any explanation very closely to what happens in a practical situation, namely the real world. Turner (1983:335) also argues that the novelty of the grounded theory is not associated with the mode of investigation, but with the manner in which data are analyzed. In this study data were

analyzed by making use of the constant comparative method in 5 stages that are characterized by Denscombe (2007:257). This method allows one to compare and contrast codes, categories and concepts as they surface, while constantly checking them against the existing norms as enshrined in the EEA. Data analysis did not take place in linear fashion but was somewhat ambiguous, time consuming and messy as Rossman (1999:150) says it is not a neat process. There was coding and identification of a theme and categories. The theme covered the filling of promotional posts. The categories consisted of teachers, principals and the LRO. All the recorded data were transcribed verbatim. Selection and prioritization of topics emerged in coordination with Denscombe's (2007:303) support of prioritizing certain aspects over others as it is not possible to present all qualitative data at concomitant levels.

## 4. RESULTS

Direct quotations have been used to substantiate certain findings. These quotations are typed in *italics* in this research report. To gain momentum on specific aspects, the author used discourse analysis in order to reveal the implicit rather than the explicit responses because he knew most of the respondents well. Denscombe (2007:309) supports this method on the basis that a researcher who undertakes discourse analysis needs to use prior assumptions and existing knowledge about the respondents, as well as the politics around that area. In this context the politics refers to the general perceptions among the interviewees on the filling of promotional posts. Below are the responses by the participants that were involved in the study.

### 4.1 The perceptions of teachers on the filling of promotional posts

Teachers generally stated that unions fully participate instead of becoming observers in processes that involve the filling of promotional posts. One teacher mentioned this, "They only care about money and the fact that their member is in excess... so they will do anything to ensure that their comrades get more pay." Another one said, "If it is a post level one position you hardly see them, but come promotional posts they start being aggressive and intimidating." Another teacher said, "From post level 2 to 4 interviews they are there with a mandate from the union and if their member does not succeed there is a grievance". One teacher said, "To the detriment of the learner, nothing is really done to support learning. They (the unionists) would rather see to it that they are promoted." Another teacher added, "Instead of doing our work preparation we look for other posts advertised somewhere because we are not happy in this education department."

When asked why they complained because they were also union members, they answered that if you are not active enough in union activities like attending union conferences and workshops, you will not be considered and you will be sent to any school. When asked about the role of the SGB's, they said, "There is no fairness, unions influence uneducated parents, and if the SGB is strong you see a lot of grievances." One of the teachers said, "Education is going down the drain". Another one asserted, "They push you up so that once you are up, you look after those who are behind. So, there is no way of successfully reporting nepotism when the authorities themselves have been deployed by their union".

Almost all teachers mentioned that promotional posts were filled according to the applicants' participation in union activities. The unions decide well in advance on who will be appointed as the principal because they have a list of teachers in excess. One teacher said, "*They caucus, I can't say it clearly because I am afraid, it depends on who are you. Who do you know? Otherwise you must make yourself known.*"

Through their involvement the panel tends to look at union affiliation rather than the needs of the school when there is a union member in excess.

Another teacher expressed her concerns in this way, *“We have Sadtu occupying all the senior positions in the DoE. You know, Meneer (Mister in English), they come with their lists of who will be appointed at which school, and they call this the deployment of their own members to key positions, just like it happens in politics. All the political parties submit party lists for those who will be in parliament. Those who don’t get onto the ANC lists, jump over to COPE. The same applies in schools. You know, I always feel like leaving this department because I work hard but there is no reward.”* (COPE refers to the Congress of the People Party which was the breakaway faction formed in 2008 by the disgruntled members of the ANC after the Polokwane ANC conference in December 2007). Sadtu is the South African Democratic Teachers’ Union which is the biggest and most influential in South Africa. Teachers told the story of another experienced and highly qualified teacher who had acted as a deputy principal for nearly a year but was not appointed because the union dominated interviews and short-listing. They said, *“This teacher feels used and dumped. We now have a poorly qualified and less experienced deputy principal just because she is connected to the union”*. The following section reports on findings from the interview with school principals.

#### **4.2 The perceptions of principals on the filling of promotional posts**

The principals agreed that the unions attended the short-listing and interviewing process as observers, but things changed when their member was in excess and not recommended because there was a dispute lodged at the district office. When asked about the steps taken to fill promotional posts, one principal said, *“Sir, as usual they look after the interests of their members. If the employer is weak, they push their agenda and they win. They look for their member and say, this one is the correct candidate”* The same principal concluded by saying, *“That’s why, today, we don’t have quality teachers and managers in our schools.”* These views were also shared by the teachers, as reported in the previous section.

Regarding nepotism, another principal, as earlier mentioned by teachers said, *“You know what happens in politics, for instance there is COPE now, because the ANC did not give jobs to certain members.”* The principal continued, *“You know, sir, in the olden days for a person to become a Departmental head you had to prove yourself in the classroom, and to become a deputy principal you had to become a good Departmental head, and lastly, to become a principal you had to become a good deputy principal. So, today you find a post level 1 classroom teacher getting promoted straight to the principalship simply by virtue of being an active union member on the excess list. Unions do not consider the quality of their members in the classroom. In my experience, teachers get involved in unions in order to get promotions and protection once they are declared in excess.”*

The principals interviewed showed displeasure at the way teachers were appointed to promotional posts. They stated that what made matters worse was that qualifications were not considered when they recommended their members. One said, *“As long as you have a certificate and you are a union key member you will get the promotion.”* There was also a degree of resentment among principals concerning the dropped performance rate among learners. One of them asked, *“What happened with the results in 2011? They are coming down because the Department of Education has lost its grip”*. The next section reports on the interview with the Labour Relations Officer (LRO).

### 4.3 The perceptions of the Labour Relations Officer (LRO) on the filling of promotional posts

The LRO responded in this manner “...*the modus operandi for various unions differs, for example, some unions go according to the letter of the law*”. She further continued to say that “...*some unions violate the rules by placing friends for positions long before they are advertised. For instance, they know that a principal is about to retire. Strategically they have someone reserved for that position. In so doing, they do not consider the curriculum and leadership needs of the institution. They want to influence the SGB by bringing their lists of people to take over the positions.*” The LRO put it in this manner, “*They bring their lists; it’s like political lists. They go to short-listing meetings and intimidate the SGB panel by threatening to lodge a grievance should their member be unsuccessful. The bigger union (SADTU) is always guilty of this. The bigger union also has a vast membership of younger educators who have little respect for authority.*”

The LRO explained that the trend amongst younger teachers was to look after their own interests rather than those of learners. She, however, indicated that there were isolated cases where young teachers were properly placed in positions. In her own words she remarked, “*generally speaking, the union deploys members to schools rather than helping them to be employed.*” The LRO indicated that there was little that could be done to resolve the situation because the senior employees of the GDE were also well-known unionists. In the LRO’s own words, “*What do you do when the employer is also in the same organization? You are helpless in this kind of situation.*” The LRO even stated frightfully that they were not free to be interviewed in this respect because some of their senior colleagues at District and Head office have been appointed on, what is referred to as, “...*the SADTU ticket.*”

## 5. DISCUSSION

Dekker and Lemmer (1993:362) argue that South Africa has been the microcosm of most of the problems in the rest of the world because teacher unions according to Poole (1997:480) are faced with two dilemmas, the teachers’ own interests and the public interest. Zengele (2009: 29) argues that once unions place the public’s interests before the educators’ interests, they will stop becoming unions hence they are bound to protect the teachers’ interests first. Bascia (1998:211) however concedes that when unions act in teachers’ interests this becomes primary to public interest as well. Kerchner, Koppich, King and Weers 1990:17), Streshly and De Mitchell 1994:69), and Kerchner and Cauffman (1995:13) all concur that teacher unions must strike a balance between their own interests and those of the community.

Findings show that unions influence the promotions of its members, and this is not in line with the specifications of Circular 43/2006 and resolution 6 of 2005. Union leaders in management positions are exposed as influencing the appointments of their key union activists to promotional posts. In dissimilarity, the union’s influence during the filling of promotional posts is guided by a desire to thank members who work hard doing union work during school hours, by securing them with promotional posts once they are declared in excess. Thanking comrades in this way has the potential to ensnare teachers to dedicate more of their time to doing union work during school hours. The impression is thus created that this is a way to secure promotions. Based on the findings of this study, it becomes deplorable that the filling of promotional posts is characterized by the self-interest of union leaders, while learners suffer the consequences.

Heckroodt (2002:5) argues that the involvement of all stakeholders is widely accepted and stimulates commitment to decision making. The author argues that, since it is the teachers who have to implement educational programmes, they have to be considered in the decision-making process. Reimers and McGinn (1997:34) point out clearly that most implementation programmes should focus on increasing the commitment of those who are to implement the programmes at school level. Kerchner and Mitchell (1998:23) agree that teacher unions are now making inroads into what was perceived as a management-only area because of the freedom accorded by education authorities who are unionists themselves.

## 6. CONCLUSIONS

The role of teacher unions is to protect teachers so that they may confidently apply for promotional posts without fear of nepotism. Schools are therefore expected to be places where promotional posts are filled by suitably qualified teachers, rather than key unionists. Nepotism threatens the morale of teachers and the realization of effective teaching and learning from taking place by promoting excess teachers to senior positions.

From the findings in this study it is reasonable to expect the following measures to be considered during the promotion procedures for teachers:

- The qualifications of teachers should always be carefully taken into account before promotions are made. The qualification requirements for management positions should be set at a Masters degree in educational management, not a matric plus a 3 year professional qualification as is currently the case
- There should be a qualifications audit of all teachers that are appointed in promotional posts and those found to be unsuitably qualified should have their posts advertised and demoted to junior positions.
- All promotional posts should be filled on 3 year renewable contracts based on satisfactory performance.
- The main criterion for promotion should be the advanced qualifications in educational management.
- Resolution 6 of 1998 should be amended to apply only to the filling of ordinary teaching positions and not promotional posts.

### **Recommendations for further research**

A study on the involvement of teacher unions in the implementation of the EEA should be extended to all the remaining 8 provinces in South Africa in order to determine if the findings in this study represent problems nationwide. The involvement of teacher unions at school level needs the immediate attention of the GDE and senior union officials to bring about a culture of teaching and learning in the schools and teacher motivation. Recent research by Müller, Allinata and Benninghoff (2009, 574-599) on educational leadership shows that effective education leadership has a positive impact on teaching and learning. It is for this reason that effective teaching and learning depends on the proper and impartial involvement of teacher unions when policies are implemented.

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## A Review on Mathematical Problem Solving Skills

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### ABSTRACT

Mathematical problem solving plays a critical role in successful learning of Mathematics and the capacity to solve problem is now being promoted in the tertiary level. Many researchers have shared their findings in this area and have used the term “problem solving skills” to illustrate students’ learning experience during mathematical problem solving. The meaning of problem solving varies ranging from working rote exercises to doing mathematics as a professional. Due to the influence of cognitive learning theories, a special attention has been focused on the mental activity that includes a variety of cognitive skills during mathematical problem solving. However, the level of skills is distinct, based on the problem structure. For example, students who practice routine problems to master typical problem solving techniques such as drawing diagrams, looking for patterns and so on are basically strengthening their mathematical knowledge and understanding. These practices are presumed to contain the basic problem solving skills which are the pre-requisite skills to solve the non-routine problem. On the other hand, the non-routine problems require the use of high level skills i.e., a more productive mathematical way of thinking to undergo the problem solving processes. Thus, the problem solving skills that a student should demonstrate when solving a mathematical problem are vaguely outlined and sometimes seem to be overlapping. The aim of this paper is to review the characteristics of mathematical problem solving with respect to the nature of a problem structure and also to explore the function of problem solving models in developing the problem solving skills.

Keywords: mathematical problem solving, types of knowledge, problem solving model

### 1. INTRODUCTION

There has been a lot of debate among the experts over the years about the definitions of problem solving, but with no particular definition emerging as the accepted one especially in the mathematical field (Zawojewski, 2010). The meaning of problem solving varies ranging from working rote exercises to doing mathematics as a professional (Schoenfeld, 1992). Nevertheless, the activity of problem solving only happens when an individual must complete a task but does not possess sufficient knowledge or experience to reach an appropriate solution (Dougherty & Fantaske, 1996). In other words, a specific task may not be a problem to an expert who can routinely solve the problem but may become a problem solving task to a novice who



does not have immediate access to the solution (Zawojewski, 2010). The theme of problem solving also involves a series of effective mechanisms that cope with the problem situation in order to achieve an ultimate solution (Dougherty & Fantaske, 1996; McGuire 2001; Zawojewski, 2010). Thus, problem solving in general links together two elements: a problem task which is generally defined with respect to the problem solver and engaging in the process of finding a correct way to attain a solution (Zawojewski, 2010).

Problem solving is normally known as a generic skill that students in schools and university graduates should possess during their academic years. It is not seen as a unitary skill but a hierarchy of skills associated with a sequence of problem solving activities (Stanic & Kilpatrick 1989, cited in Schoenfeld, 1992; McGuire, 2001). The level of skills is distinct, based on the problem structure. For example, students who practise routine problems to master typical problem solving techniques such as drawing diagrams, looking for patterns when  $n = 1, 2, 3, \dots$  etc. are basically strengthening their mathematical knowledge and understanding. These practices are presumed to contain the basic problem solving skills which are the pre-requisite skills to solve the non-routine problem (Schoenfeld, 1992). On the other hand, the non-routine problems require the use of high level skills, i.e., a more productive mathematical way of thinking to undergo the problem solving processes (Schoenfeld, 1992; Dougherty & Fantaske, 1996).

There are a large number of definitions and discussions about the characteristics and interpretation of problem solving (Schoenfeld, 1992). Zawojewski (2010) stated that the nature of a problem task influences the students' problem solving experience where it depends on how the problem is perceived and solved. Skills will only emerge when students are actively involved in problem solving activities (Lazakidou & Retalis, 2010). Activities that involve individual learning or team work spirit help students to stimulate their thinking ability and demonstrate respective skills in problem solving (Raviv, 2004). For instance, hands-on activities allow students to explore, test, build, think, talk, connect, and reason with different mathematical tools such as concrete material, drawing, symbols etc. Nevertheless, proficiency in generalized problem solving skills is only encouraging the rote learning that is adequate to manage routine problems (Mayer, 1998). Many researchers (Lester, 1989; Mayer, 1998; Pugalee, 2001; Karzemi, Fadaee & Bayat, 2010) claimed that the aspect of problem solving skills should be more centralized to the ability of controlling and monitoring the cognitive processes and this kind of mechanism is known as metacognitive. Thus, the specific problem solving skills that a student should demonstrate when solving different types of mathematical problems are multiple and sometimes overlapped in the context. Furthermore, numerous problem solving models have been proposed and applied to various educational studies with the intention to examine the construction of problem solving skills in a step by step manner (Lazakidou & Retalis, 2010) but some researchers (English and Sriraman, 2009; Ozsoy & Ataman, 2009) argued that these models give minimum positive impact on problem solving abilities. The aim of this paper is to review the characteristics of mathematical problem solving with respect to the nature of a problem structure and explore the functions of problem solving models in developing problem solving skills.

## **2. THE MEANING OF MATHEMATICAL PROBLEM SOLVING**

A mathematics problem is a problem with mathematical content that requires mathematical reasoning and knowledge to solve it (Mayer, 2002). The level of efforts and struggles to resolve the problem depends on the strength and ability of a problem

solver as what Schoenfeld (1985, cited in Mayer 2002 p. 70) has observed: “*The same tasks that call for significant efforts from some students may well be routine exercise for others.*” Thus, the problem solving only occurs when an individual does not have an immediate access to a solution. One needs to determine and locate a practicable way to solve the problem, which is the most challenging part in problem solving. It involves multiple cognitive processes and skills in searching for a solution path

Krulik and Rudnik (1980, cited in Carson, 2007 p.7) described problem solving as “*the means by which an individual uses previously acquired knowledge, skills and understanding to satisfy the demands of an unfamiliar situation. The student must synthesize what he or she has learned, and apply it to a new and different situation.*” The phrase implies that one must have some specific background or domain knowledge of the problem before solving it. He or she is able to integrate the past and newly learned knowledge and skills from different areas of mathematics and apply to the new problem. The inadequate knowledge and learned skills will affect the problem solving performance. Mayer (2002) expressed problem solving as a directed cognitive processing that contains three features: (i) the internal cognitive behaviour (ii) the mental arithmetic calculation and (iii) engaging in a series of problem solving activity to achieve the intended goal. He stressed that a problem solver needs to be equipped with four intertwined cognitive skills, i.e. translating, integrating, planning and executing in the mathematical problem solving. Each skill depends on respective knowledge to perform. For example, when a student reads a problem, he or she requires the translating skills to interpret words, sentences, ideas, or terms into cognitive expressions that make use of symbolic, verbal or pictorial manners. However, students need an enormous resource of semantic and linguistic knowledge to complete the process of translating. Students use the linguistic knowledge to represent and interpret the meaning of the information. Semantic knowledge refers to knowledge of facts about objects and events while linguistic knowledge refers to knowledge of the language that is used to present the problem. Table 1 shows the respective knowledge involved for each cognitive process. Thus, a strong retention of the previous mathematical knowledge is an essential element to increase the problem solving ability that assist one to apply the skills learned in one situation to a different but similar situation (Carson, 2007). In fact, most researchers concluded that knowledge of context was the most critical feature of skill in problem solving (Kirkley, 2003).

Table 1: Four Cognitive Skills in Mathematical Problem Solving (cited in Mayer, 2002)

Skills	Meaning	Respective Knowledge
Translating=	Converting sentences into mental representation	Semantic – knowledge of facts about objects and events Linguistic – knowledge of the language
Integrating=	Building a mental model of the problem situation	Schematic – knowledge of problem situation
Planning=	Devising a plan for how to solve the problem	Strategic – develop a course of action for solving a problem that depends on previous experience
Executing=	Carrying out the plan	Procedural – knowledge of algorithms in which an operator is applied to a representation and results in the creation of a new representation

Nevertheless, the idea of possessing the prior knowledge and skills is not enough for students to be proficient in problem solving, and students must also upgrade their level of different knowledge and skills through different problem solving experiences. In other words, students should continue to expand and use what they know through the process of accessing and applying their existing knowledge in the appropriate situation (Schoenfeld, 2007). This series of actions will assist students to construct new knowledge and skills (Putnam, 1987; Schoenfeld, 2007).

### **3. TYPES OF KNOWLEDGE INVOLVED IN MATHEMATICAL PROBLEM SOLVING**

The knowledge that is needed to solve a problem is multiple and can be characterised into a variety of features and qualities (DeJong & Ferguson-Hessler, 1996). It is composed of many principles, examples, technical details, generalizations, heuristics and other pieces of relevant information (Solar-Portoles & Lopez, 2008). Many attempts have been made to give a systematic description of knowledge. Some attempt to describe the knowledge development through the cognitive perspective whereas others express knowledge as a range of understanding and information that serve as a fundamental of the instructional design framework. Nevertheless, some characterise knowledge depending on its functions that satisfy the nature of the problem task. This means that task performance forms the basis for the identification of relevant aspect of knowledge (Gott, 1989, cited in De Jong & Ferguson-Hessler, 1996).

#### **3.1 Knowledge Types for Different Mathematical Problems**

Mathematical problem is normally classified into well-structured problem and ill-structured problem or sometimes routine and non-routine problem. Well-structured problem normally produces a convergent answer that requires a finite number of information or constrained knowledge based on the contents covered in mathematics textbook (Simon, 1978, cited in Dougherty & Fantaske, 1996). Such problem frequently involves routine application to reach a final solution (Schoenfeld, 1992). Ill-structured problem, on the other hand, involves descriptions and goals which are vaguely defined that they require extensive knowledge and experience in the problem solving process. It may possess multiple valid solutions or no solution at all that requires the solver's personal opinions and reasoning on the problem solving strategies (Hong, 1998).

The primary knowledge needed to solve a well-structured problem is domain-specific knowledge (Glaser, 1984, cited in Hong 1998) which includes declarative knowledge and procedural knowledge. Declarative knowledge, also known as conceptual knowledge is the "know what" context that includes the basic concepts, facts and principles within a certain domain (Solar-Portoles & Lopez, 2008, Kirley, 2005). Procedural knowledge plays the role of "knowing how" that contains the actions, rules or procedure for solving a mathematical problem. It supports the process of executing the problem solving operations (Dougherty & Fantaske, 1996). However, Mayer (2002) explained the difference between a procedure and a strategy. According to him, a procedure involves routine actions that achieve a specific solution whereas a strategy is a dynamic approach to a problem that depends on the circumstances and sometimes does not guarantee a solution.

In solving a well-structured problem, learners may possess the ability to classify groups of problems into categories in terms of patterns and structures, and choose the appropriate method that leads to a solution (Steele, 2005, Birney, Fogarty & Plank,

2006). This is known as schematic knowledge that contains declarative knowledge and procedural knowledge where learners can solve the problem immediately due to the recognition of similar problem-solving situation (Steele, 2005). The repetition of related problems helps learners to construct a schematic network that may apply to new related problem situations (Piaget 1925, cited in Steele 2005).

The effective use of skills in solving well-structured problems extends one's capabilities in solving ill-structured problems (Schloeglmann, 2004). The ill-structured problem still requires the domain-specific knowledge that assists a solver in the selection of procedures and additional information in finding a solution path (Roberts, 1991, cited in Hong 1998). A well-developed domain specific knowledge is a key factor in solving the ill-structured problem. The substantial content knowledge in particular domain upgrades one's problem solving ability to reason and explain about a problem (De Jong & Ferguson-Hessler, 1996). However, the domain-specific knowledge alone is insufficient to accommodate an ill-structured problem. It must be integrated appropriately to fit into the problem situation and this requires structural knowledge that engages the integration of declarative and procedural knowledge into useful knowledge structures. It is the type of knowledge that captures the important domain concepts and shows the interrelation between the concepts. In addition to this, learners should also be equipped with the strategic knowledge when solving an ill-structured problem. Strategic knowledge helps the learner to develop a course of action plans for solving problems and determine whether the course of problem solving process is working and modify it if it is not working (Mayer 2002, Solar-Portoles & Lopez, 2008).

Thus, the knowledge needed to solve different types of problems varies considerably. Bloom and Broder (1950, cited in Dougherty & Fantaske, 1996) found that the success in problem solving performance depends on knowledge retention, which suggests that a lack of information, or the content knowledge, constitutes the major problem-solving barrier.

#### 4. THE ROLE OF PROBLEM SOLVING MODEL IN MATHEMATICAL PROBLEM SOLVING

There are a few problem solving models adapted in working on a mathematical problem (see table 1). These models produce the same activities, i.e., a process to lead students from the minute they face the problem until they finally obtain a correct answer.

Table 2: Problem Solving Models (cited in Tamychik et al, 2010)

Polya (1981)		Krulick & Rudnick (1996)		Zalina (2005)	
4-hierarchy phases		5-hierarchy phases		3-hierarchy phases	
(i)	understanding the problem;	(i)	reading and thinking;	(i)	understanding the problem;
(ii)	planning;	(ii)	analyzing and planning;	(ii)	solving the problem;
(iii)	performing the plan;	(iii)	Organizing the strategy;	(iii)	stating the answer;
(iv)	confirmation of the answer;	(iv)	getting the answer;		
		(v)	Confirmation of the answer;		

Source: Tamychik et al, 2010

The problem solving model serves as a general strategy for problem solving. Polya (1945, cited in Zollman, 2010) is credited as the key figure that began the investigation for assisting students to mathematical problem solving. The model guides the students on how to solve various mathematical problems in a systematic way by going through a sequence of cognitive activities, for example, reading and understanding the problem, planning, performing the planning, getting the answer and confirming the answer. This process forces students to assess their understanding, rather than just getting the final answer (Parker Siburt, Bissell & Macphail, 2011). However, in order to engage students in the problem solving process, Polya constructed a series of questions as a checklist of the problem solving procedure (cited in Berkenkotter, 1982). Table 3 shows a set of guiding questions that attaches to Polya's problem solving model. These questioning techniques encourage students to investigate, analyse and demonstrate knowledge of the underlying concepts in order to reach the final solution. In other words, each phase of problem solving presents the skills a student should possess (Clement & Konold, 1989). Thus, the role of a problem solving model, whether a model from the 1980's or those developed in the later years (see Table 2), is for each student to comprehend and engage in the problem solving process.

Table 3 A set of Questions Directed toward the Problem Solving Process (cited in Berkenkotter, 1982)

<b>Four Phases of Problem Solving</b>	<b>Questions</b>
Understanding the problem	What is the unknown? What are the data? What is the condition? Is the condition sufficient to determine the unknown? Etc.
Planning	Do you know the related problem? Could you restate the problem? Could you imagine a more accessible related problem? Did you see all the data? Have you taken into account all essential notions involved in the problem? etc.
Performing the plan	Do you check each step? Can you see clearly that the step is correct?
Confirmation of the answer	Can you check the result? Can you check the argument? Can you use the result, or any other method, for some problem?

## 5. CONCLUSION

The dilemma of problem solving only occurs when an individual does not possess sufficient knowledge or experience to reach an appropriate solution. A specific task may be problematic to a novice but become a routine exercise to an expert who has the immediate access to the solution. Thus, it depends on an individual's prior knowledge and practical experience in problem solving as what has been observed by most of the researchers (Mayer, 2002; Krulik & Rudnik, 1980, cited in Carson, 2007).

Mathematical problem solving normally measures as a hierarchy of skills associated with a sequence of cognitive activities such as translating, integrating, planning and executing. However, each skill depends on respective knowledge to perform. Problem solving would be more effective if the knowledge content is the key asset to a problem solver. In addition to this, the application of types of knowledge to problem solving depends on the problem structure. Domain-specific knowledge is a

primary component of solving both the well-structured and ill-structured problems. Specific knowledge such as structural knowledge and strategic knowledge, on the other hand, are the necessary components to solve ill-structured problems which involve complex problem solving (Dougherty &Fantaske, 1996). Thus, the knowledge capacity of a problem solver plays a critical role in problem solving.

The problem solving model works as a framework for understanding problem solving. It is an alternative strategy to stimulate the thinking process in a heuristic procedure. It helps the problem solver to experience one mode of thinking to the other and construct meaningful ideas by responding to a series of questions at each problem solving phase. The questioning approaches assist the solver to apply the respective knowledge and perform the relative skills during the problem solving process. Although there are several problem solving models adapted in working on a mathematical problem, their role works towards the same objective.

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# Education III

**13:00-14:30, December 15, 2012(Room 1)**

**Session Chair:** *Prof. Sunanta Suthithatip*

**148: Collaborative Innovation: Developing and Researching New Arts Practice Through Cross-Institutional Collaboration**

*Susan West*

*Australian National University*

*Georgia Pike*

*Australian National University*

**155: An Evaluation of a Youth-Led Training on Preventing Unplanned Pregnancy for Nursing Student, Saraburi, Thailand**

*Pourpen Krinara*

*Saraburi Nursing College*

*Siriwan Tumchua*

*Saraburi Nursing College*

*Nunthida Fuangfhung*

*Saraburi Nursing College*

**180: Cognitive-Possession and Social-Process Perspectives of Organizational Learning and Organizational Knowledge: Coherent or ‘Neutralistic’ Integration in the Education Context?**

*Pooganentren Nagalingam*

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**207: Research of Accounting Simulation Experiment Teaching Mode for Modern Distance Education**

*Huan Huan Fei*

*Dalian University of Technology*

**616: Distributive Leadership: Hierarchical Hegemonies and Policy Challenges in African Schools**

*Icarbord Tshabangu*

*University of Namibia*



## **Collaborative Innovation: developing and researching new arts practice through cross-institutional collaboration**

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### **ABSTRACT**

This paper describes an approach to music making that has developed over more than a decade into a city-wide program based in schools and the community. A simple practical concept was trialled at one school in collaboration with teachers and students. A conceptual model emerged that has become the basis for a training program for in-service teachers across the school system, and, more lately, community members, many of whom have become further collaborators. A range of outcomes has emerged including an experimental curriculum, educational methods and materials, performance events, theoretical constructs, and research outputs, all of which have a consistent relationship with the underlying conceptual model. The paper describes the basic concept and its principle points of difference from other music making approaches, discusses its outcomes and the applicability of the model outside its host city.

Keywords: music, arts, cross-institutional, innovation

### **1. INTRODUCTION**

The Music Engagement Program (MEP) has a continuous history of more than 25 years. During this time period, it has transformed from an elite music training program for young children perceived to have special music talent to a city-wide mass participatory program that focusses on socio-musical outcomes for health and well-being. Its first decade, as befitted a stand-alone music Conservatorium, involved the development of high level practice. Since the School of Music's absorption into the Australian National University, the focus on practice has been both tempered and supported by the need to develop research-based outcomes. Given its relationship with a School of Music, a university, a Government funding body and an entire community, the MEP offers a model for sustainable arts development that involves the many in an active and supportive way.

#### **SECTION 1 The Music Engagement Program and the Music Outreach Principle**

The Music Engagement Program at the Australian National University's School of Music operates across the entire educational and community sectors on the basis of a very simple philosophy called the Music Outreach Principle. This Principle can be described in a way that is understandable and applicable by anyone and everyone, from a young child to the most advanced musician: *I make music in order that others will make music for the mutual benefit of all*. The conscious intent of participants is to make music so that others will be inspired to join in, with everyone sharing in the benefits of music making in whatever ways those benefits may be defined.

The Music Outreach Principle can manifest itself in any number of ways: it is not an activity, it is an intent. Every music-making situation can be a music outreach situation, depending on the aspiration of its participants. An example of a 'classic' outreach situation involves a group of individuals visiting, for example, a nursing home to make music with the residents. They do not stand as a choir, but move around the room individually or in small groups, making close personal contact with the residents. They sing songs the residents know and activate the individual music making of each person in any way possible, including both singing and movement. However any situation, including concerts and informal music making situations can act as outreach occasions as well.

In this model of music making, everyone can engage both as music maker and music facilitator at the same time, regardless of age, musical expertise or experience, in a very personal way. The most important 'skill' in the interactions is quasi-musical but also highly social: that is, the degree of 'tuning in' or empathetic communication with the 'other' involved in the personal interaction and with all the 'others' present. It is this idea of 'giving out' one's own music while 'taking in' the music of the other that allows the personal sharing of music making to occur in very large, multi-generational, multi-skilled groupings as well as one-on-one.

This Outreach Principle resists categorisation in musical, educational and research terms. Its development is not limited by any particular goals. For example, in musical terms, the Principle has developed through applying an idea that has a social imperative at its core. It includes a musical element that is of great importance but is, at the same time, non-essential: we can reach out empathetically to others without the use of music. The music making functions as a way of encouraging both engagement in music and also engagement between people: an empathetic, connective bridge of joint singing and playing.

In educational terms the Music Outreach Principle contributes to the school system but sits outside of it thereby gaining some protection from regulatory forces at work within that system. It provides more music making in ACT schools than any other single program, impacting approximately 15,000-20,000 thousand children and their teachers per year, as well as community members, than any other single program, but it has no mandated outcomes, activities, or assessment for teachers or students. While it can and does develop musical and educational skills through its well-formed curriculum, skill development as such is not its primary agenda.

The Principle is not based on any particular educational or music educational method, such as Kodaly or Orff, although it allows for those practices to be used, albeit from a perspective that is different from the original method. It offers examples of practice which are closely aligned with theory and require an understanding of the underlying philosophy. In this way, the Music Outreach Principle provides strong guidance for teachers and other facilitators with multiple levels of skills and confidence, without limiting anyone's ability to engage.

### **Distinguishing Features of the Approach**

Superficially, the Music Outreach Principle appears to replicate other approaches to music making and music learning. There are however, profound differences. With the Music Engagement Program there is: a social, not musical, intent to encourage on-going participation for everyone; a focus on individual choice within a group model; a lack of judgement that removes exclusivity; and a different conceptualisation of expertise.

### **A social, not musical, intent to encourage on-going participation for everyone**

The notion that music making can, or even should continue, as a life long activity is perhaps implicit in all music education. No-one admits to teaching music to children expecting them to stop making music when they are no longer children. Yet clearly most do stop (West, 2007). This problem may, at least in part, have to do with the way music is taught.

The imperative of providing specialist technical expertise for those that need it and the problems this imperative may cause for the average person who wants to make music is widely acknowledged (Davidson and Scutt, 1999; Barenboim, 1977; Fletcher 1991). Schafer, for example, (1973, p.4) says that 'the genius syndrome in music education often leads to debilitation of confidence for more modest achievements.' The advocacy movement may not necessarily help this problem. As Myers (2005) writes, 'Our response to cutbacks and eliminated programs has been to drum up political and commercial support for the status quo, thus largely circumventing issues of relevance between school music and music in the larger society.' Advocacy tends to focus primarily on providing for music in the school years: Myers argues that many prominent figures see school music as irrelevant to fostering lifelong musical interest and involvement.

The Music Outreach Principle focuses on the participation *per se* and what is required for participation to be encouraged for each individual. It is built around a social intent that does not eschew skill development but firmly positions it as a lower priority for all music makers. It prioritises voluntary participatory engagement, re-engagement, and continued engagement without reference to skill, age or perceived ability.

### **A focus on individual choice within a group model**

Perhaps nothing is odder in music education at any level than the discrepancy between the averred importance of music as a means of personal fulfilment and the extent to which the individual's personal choice is not considered (Pitts et al, 2000; Finney, 2003; Reid, 2001). Holdsworth, for example, points to the huge body of evidence supporting student consultation and participation in a range of areas, but not in music (Rudduck, 2002). Bartel (2004) makes a similar point when discussing the teacher-directed nature of music education and the demands of these teachers which 'may at time approach abuse' (p xiii). This problem relates to that discussed above: we believe there is a skills and knowledge base that is necessary 'just in case' (Price, 2008) students may need it in the future. In more recent times Lucy Green's (2008) pioneering work has contributed to new approaches to music education which embed more student choice and student control in the process. There is, however, always the danger that embedding of informal processes in the formal educational curriculum may result simply in the formalisation of the informal. In instrumental teaching Rostvall and West (2003) make the point that individual tuition is seen as important in order to give individualized attention yet most lessons are taught in the same way.

Choice in the Music Engagement Program includes allowing each individual to make a decision about whether to engage at all and, if engaging, what sort of content each would prefer. The cross-institutional position of the MEP contributes to its ability to allow individuals to choose since it does not have to respond to any particular educational agenda within any of its institutional partners. This positioning also allows the MEP to explore the types of outcomes that can emerge for participants across a range of domains including the social, musical, educational and emotional.

### **A lack of judgement that removes exclusivity**

The skills focus in most music making run parallel to a focus on finding ways to judge outcomes or assess 'standards' to prove that the skills have been learned. The contrasting ideas of music as a standardized and assessable part of education and music as a popular community pursuit creates divisive opinions that seem to suggest an unbridgeable gulf (Swanwick, 1999; Schafer, 1973). Music making can become identified with formal school learning, to be discarded when one leaves school (Paynter, 1976; Pitts, Davidson, McPherson, 2000). Sloboda (1999, p 458) makes the point that the idea of music making as simply enjoyment or personal fulfilment is 'a strange, almost reprehensible concept in many people's minds'. Yet even those who advocate a more holistic or inclusive approach to music education equate greater access with a general lowering of standards (Small, 1980; Wright, 1998). Is it really so clear that participatory music-making for all must result in lower standards? Why do we seem to be so attached to the idea of seeing progress as related to judgement about progress – as part of an uphill slog? Might we have the courage to ask: even if increased music making does result in fewer excellent musicians (although it is hard to imagine how it might), is that such a high price to pay for increased music making? Should it not create the potential for the opposite?

In the Music Engagement Program several ideas combine to remove the centrality of judgement. Everyone is already deemed capable of making music by virtue of being human. The intent is to support the music making of others, not to judge them. Everyone willing to engage is helped to engage as he/she wishes; supporting the engagement of others, to whatever extent is comfortable for each individual, is part of the choice made by those engaged and helps support the learning of the helper as well as the helped. Musical improvement goes hand-in-hand with therapeutic music-based social sharing; thus everyone is always included.

### **A different concept of expertise**

In general, music education relies on the idea of musical expertise as the most important factor in identifying those qualified to create more musical experts. At the same time, some commentators note the problems involved in putting ourselves in the hands of the musically expert (Small, 1980), whom we often view as superhuman (Campbell, 1998), causing disenfranchisement of the average musical citizen (Sloboda, 1999). The increasing focus on packaged, polished music, rather than in the social making of music has led to a 'reduction in...societal scaffolding' and 'a widening gap between everyday contexts in which people operate as novices and those in which they can come to operate as experts' (Sloboda, 1999, p. 459). Perhaps more worryingly, modern society has manufactured the connection between the higher skills of music and the higher feelings inherent in music. The difficulty in objectively judging the affective elements of music making has kept the light shining on the more easily quantifiable elements of musical skill (Broomhead, 2001), with expression often regarded as a 'sugar coating' (Davidson et al, 2001, p. 55). In a culture that is focussing on the expert's ability and, in particular, the performer's ability, it is little wonder that teachers of all stripes may not develop confidence or positive attitudes about teaching music (Richards, 1999). Neither is it surprising that, for both those in the education system and beyond, the 'folk mythology' surrounding the idea of special musical gifts endures (Cope and Smith, 1997, p283).

The Music Engagement Program model focuses on a different type of expertise, one within the grasp of everyone: that is, the development of skills related to a particular attitudinal stance that encourages music making in all participants. It is designed to put back the 'societal scaffolding' in modern ways: through relationships

between the institutional partners and multiple choices about ways times and places to engage. This multi-layered scaffolding provides both freedom and flexibility.

## **SECTION 2 Practical outcomes in the Music Engagement Program**

Outcomes from the MEP initially focussed almost exclusively around direct dissemination of methods and materials to the first target audience – teachers and their students. Over time, while direct dissemination is still of paramount importance to the government funding body, the MEP's placement in the university context has led to an expansion and development of its research aims and outputs. Principal outputs are described below, including the experimental curriculum, educational methods and materials, performance events, theoretical constructs, and research development, all of which have a consistent relationship with the underlying conceptual model.

### **Experimental curriculum**

An advantage of the MEP's cross-institutional positioning is that it is able to offer approaches to curriculum that can support teachers in the system while sitting outside that system, thus allowing more creative and differentiated initiatives. The curriculum is built around several important concepts in the MEP: the importance of the social over the musico/technical, and the lack of judgment. In terms of systemic education, both of these features are problematic, since improvement and assessment of skills remain central to both music education and general education. In this context, the MEP curriculum represents an example of the research potential of a direct dissemination model when applied over the long term.

### **Educational Methods**

The MEP resists codification since the actual music methods used are not of central importance. As with the curriculum outcomes, examples of methods of delivery are just that, examples only. Teachers are therefore in the powerful position of using their existing pedagogical knowledge, in tandem with their developing music knowledge and confidence, to develop their own approaches with the support and help of their students.

### **Educational Materials**

The MEP pursues on-going development of materials in collaboration with its users of all ages. For example, its 'base-line' song set of seventy songs (10 for each year of primary school) was chosen by students over a decade. Subsidiary sets of songs are in constant development. The MEP is currently developing music literacy materials in collaboration with older groups of students with the aim of designing activities that allow multiple skill levels and multiple choices in each class, or with each group of participants.

### **Outreach Performance Events**

The MEP does not prioritise performance, or presentation-based outcomes, which is another major difference that emerges from a social model of music making. However, events do occur that share some similarities with performance events in the more traditional music making paradigm, but with a singularly different intent. All music activity in the MEP, whether in a nursing home, a classroom, a lounge room, or a concert hall, is focussed on the social-altruistic sharing of music engagement chosen by each participant.

### **Theoretical constructs**

Through the application of the MEP model various theoretical constructs have emerged. The most important of these is the Music Outreach Principle itself which, paradoxically, encourages music participation by focusing on the social, rather than the musical elements of music making. Another important construct, derived from outside the field of music education, is an 'invented' psycho-social condition called Selective Mutism for Singing or SMS (West, 2009). Selective Mutism for Singing is defined in relation to Selective Mutism as a condition where 'the individual's singing ability remains intact but is not used in particular circumstances for psychosocial reasons' (p 4). This concept has proved a useful pedagogical and analytic tool for developing understanding and facilitating skills amongst musicians and non-musicians alike.

### **SECTION 3 Challenges and Implications**

The MEP has three principal stakeholders: the government arts portfolio (artsACT) that funds it, the university that houses it, and the community, including the education sector and beyond, that uses it. This positioning, ironically, has not only helped contribute to the flexible and innovative nature of the MEP but also provides its greatest challenge arising from the contradictory nature of the requirements of these different regulatory systems.

#### **The Government Arts Portfolio**

Maintaining funding from artsACT is obviously an important priority. The funding body has been consistently most interested in the dissemination of practical training and materials that provide artistic access to the broadest possible number. While the focus was initially on the education system, the increasing reach of the MEP has occasionally created a mis-match between developing outcomes and political portfolio: for example, the growth of partnerships between schools and nursing homes was not a particularly comfortable match for an education portfolio that did not include senior services. Over time with increasing support from the government, the political realities that have resulted in changes to the portfolio in which the MEP sits has become a strength of its development, creating flexible responses within the program and within the government funding body.

Perhaps most importantly from the point of view of sustainable arts practice, the MEP has developed a model that has continued to increase participation without increasing costs. Indeed, until 2012, the MEP funding had no increase in dollar value over a ten year period, resulting in a halving of staff while still increasing training and participation dramatically.

#### **The Community and Education Sector**

Within the community, problems arising from the education system have been mitigated by the fact that the Program works within the system but is neither funded through, nor housed in, that system. Systemic-wide issues, such as, for example, the need for formal assessment, can be solved in creative ways because the developers of the MEP are not responsible to the same regulatory body as teachers. Individual school-based issues can be solved through a combination of the flexible design of the MEP, and its power to move resources around the system in order to relocate support where it is required and wanted, rather than be subject to the changing wishes and needs of any specific school environment. Thus its philosophical integrity can be maintained while still offering a responsive approach to criticisms and suggestions.

This very ambiguity of the MEP's positioning allows it to focus more particularly on its more important but least powerful stakeholders in the education system: the

children. At the same time the children and their schools provide easy access for parents and community to participatory music making. Community members, parents and teachers have all contributed to ideas for encouraging engagement and have supported students' ideas for helping others in the community.

### **The University**

The most significant and on-going challenge in the current regulatory environment involves, perhaps ironically, the home of the MEP – the university system, in this case a first order research-intensive university of world standing. Community based engagement, while contributing to the university's stated goal of providing 'outreach' also raises challenges. Problems identified with community based research in the health system (Israel et al, 1998) include balancing action and research and the problems for academics who jeopardise their employment prospects by engaging in community based research that does not meet criteria deemed important by the university, 'which often place(s) greater value on traditional, quantitative, basic research' (p 191). On the one hand, the increasingly formal research into the MEP is valuable in terms of assessing its true impact and making its findings more widely available. On the other, the role of a university in exploring innovative, if not radical, ideas can be compromised by the traditional mores of both the discipline and the academy, particularly within the arts. Indeed, the need to maintain a focus on dissemination of practical and research findings directly to users may help the MEP avoid a reverse problem: that is, the reduction of practice-based outputs in order to provide more traditional text-based outputs for conferences and journals (Brown et al 2004).

The challenge of remaining true to the practice-based nature of the MEP's history and its contractual obligations while meeting the various needs of its university habitat has proved a spur to creativity. Given the lack of focus on assessment in the Program, the importance of individual choice, and the central role given to an expanding community of practitioners, the MEP has developed a social constructivist model of developmental research which 'involves intensive collaboration among researchers and practitioners' and 'maintains a commitment to theory construction and explanation while solving real-world problems' (Reeves, Herrington, and Oliver, 2004).

## **2. CONCLUSION**

The MEP, based on its social-musical foundation, can provide: a) a viable model for sharing musical and pedagogical experience and knowledge across institutions at minimal cost; b) an alternative practical approach based on a form of applied research that has 'transferable concepts, methods and materials' (Brown et al, 2004); c) a growing qualitative and quantitative data set collected in the field involving a multi-media collection platform that has multiple uses; d) a practitioner-based model that extends beyond the individual classroom or music making site, providing a large multi-disciplinary, cross-institutional field for other researchers to access.

The various stakeholders of the MEP have raised, and continue to raise, various challenges for the Program and its long term sustainability. Yet these very challenges have also contributed to the Program's creative development and provided a range of alternative avenues for the dissemination of its outputs. The MEP is challenged by its positioning but also supported and protected by it. In times of increasing financial constraints and regulatory impositions, such a cross-institutional position may well benefit arts participation, at both the community and educational levels, more broadly

in Australia and beyond.

The development and sustained nature of the MEP offers some lessons for those further afield in terms of building arts participation in simple ways that focus on the health, well-being and basic humanity of us all.

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## AN EVALUATION OF A YOUTH-LED TRAINING ON PREVENTING UNPLANNED PREGNANCY FOR NURSING STUDENT, SARABURI, THAILAND

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### ABSTRACT

**Background:** Thailand rank first among Asian countries for teenage pregnancy. Previous studies indicated that teens preferred to receive youth-centered health messages in creative ways. **Objective:** This study examines effects of the educational program using experiential learning on *promoting* baccalaureate nursing students' knowledge, attitude, and self-efficacy in leading teen pregnancy *prevention*.

**Methods:** This quasi experimental, pretest-posttest research design was conducted on 82 undergraduate nursing students who enrolled in second year of program. Students were randomly assigned to control and experimental for 41 each group. The control group received regular educational course on adolescent health promotion. The experimental group received experiential training course toward *leadership building in preventing teenage pregnancy*. Questionnaires were used to assess knowledge, attitude, and self-efficacy to lead teenage pregnancy prevention before and after the program. Data analysis was performed using t-test statistic.

**Results:** The experimental group who participated in training toward *leadership in preventing teenage pregnancy* had significantly higher scores of knowledge ( $t = 7.93$ ,  $p < .01$ ) and self-efficacy ( $t = 3.78$ ,  $p < .01$ ) than the control group.

**Conclusion:** This paper suggests benefit of utilizing the training program as superior to regular classroom learning to increase knowledge and self-efficacy of nursing students toward preventing teenage pregnancy.

Key words: Youth-led training, Nursing student, unplanned pregnancy, Teenage

### 1. BACKGROUND

Teen pregnancy has been a major problem in Thailand. Teenage pregnancy increased over the past decade and rank first among Asian countries for teenage pregnancy. World Health Organization figures show the global average number of pregnancies for every 1,000 girls in the 15-19 age groups is 65. In Asia it is 56, but it rises to 70 in Thailand. (The Bangkok Post, 2011) In 2008 the incidence of teenage pregnancy at Saraburi was 16.6%. (Social Development and Human Security Ministry, 2009)

Systematic review of studies related to teenage pregnancy addressed the relationships among counseling and sex education knowledge on changing of adherence, skills, and attitudes about contraception and pregnancy.(Moos, Bartholomew & Lohr, 2003,p.115-32). It is healthy to talk with teenagers about not to engage with sexual intimacy and premarital sex. They should be in the beautiful relationship with faithful waiting until wedding. School-based interventions especially curriculum-based education focuses on abstinence and contraceptive use are considered to be the best ways to reach adolescents who are at risk of pregnancy or already sexual active.(Chambers,Boath & Chambers, 2003, 85-90) Interventions focus on peer education and young person-centered were found to effectively reduce frequency of teenage pregnancy. Teens reported that they were more comfortable to talk with people who deliver health message creatively. Moreover, an abstinence-based intervention led by trained social workers found no significant different of adolescents' initiation of sexual intercourse among the intervention and comparison groups at 1-year follow up.(Lieberman, Gray, Wier, Fiorentino & Maloney,2003, 237-245). Researcher in another study also reported limited impacts of abstinent on students who were already sexually active and had difficulties of reaching adolescents who were already at high risk for pregnancy.(Chambers, Boath & Chambers, 2003,85-90).

Experiential learning *theory* defines learning as “the process whereby knowledge is created through the transformation of experience. (Kolb, 1984, 26). *Kolb emphasized the important of active learning that grounded in experience. The four-stage experiential learning theory comprised of 1) Concrete experience, 2) Reflective observation by lived observation and reflection, 3) Abstract conceptualization, and 4) Active experimentation by making decisions and problem solving.* This study designed learning activities based on *Kolb's experiential learning model*, the goals were to utilize a real life experience of teenagers as key elements in promoting leadership of nursing students to delivery health promotion services to vulnerable teenage students at risk of unintended pregnancy.

The current complex issues related to teenage pregnancy challenge nursing faculty on preparing nursing students to effectively handle health and problems of adolescents. The previous adolescent health nursing curriculum focused on establishes nursing students' ability of providing care in response to adolescent routine growth and development. In response to the needs of combating teenage pregnancy and providing up to date health care for Thai adolescents the expected capability on preventing teen pregnancy cannot be achieved with integrating experiential learning and practicum into Adolescent health promotion curriculum. After finishing the new teaching paradigm which engaged nursing students with lived experience of youth, it is expected that nursing students will capable to provide effective adolescence health care and counseling to their same age peers to delay the initiation of sexual intercourse, improve contraceptive use, and prevent teen pregnancy.

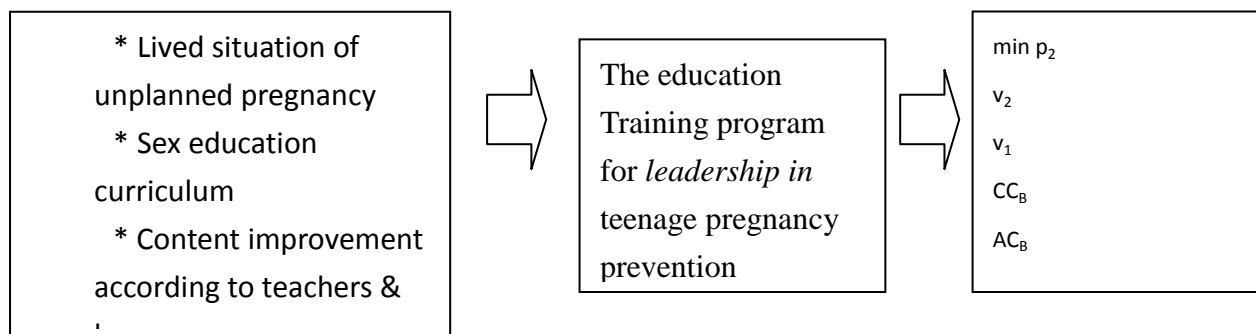
### **Purpose**

This study examined effects of the education program using experiential-learning of teens lived experience on *promoting* knowledge, attitude, and self-efficacy in preventing teen pregnancy of baccalaureate nursing students.

### **Conceptual Framework**

Boromarajonani College of Nursing Saraburi recently developed the Adolescent health promotion nursing curriculum utilizing youth-led training of sex education and experiential learning to enhance nursing students understanding and sensitive to life

circumstances, motivation, and events that lead teenagers to initiate sexual intercourse of teenagers.



## 2. METHODS

### Research design & Participants

This study was a quasi experimental, two groups pretest-posttest research design. Participants were a convenient sample of 82 nursing students who enrolled in second year of baccalaureate program. Students were randomly assigned to either control or experimental groups. Each group was comprised of 41 students. The research project passed the approval of the Research Ethics Committee of the Boromrajonni College of Nursing Saraburi, Thailand. The samples willingly signed the consent form to participate in the project. This study was conducted in December 2011.

### Instruments

Four questionnaires were used to assess students' knowledge, attitude, and self-efficacy toward teenage pregnancy prevention and counseling before and after finishing the course. Questionnaires were designed by the researchers based on the conceptual framework, literature review, and opinions of experts in areas of adolescent health and sex education. Details of the questionnaire are as follows.

**Personal data.** The questionnaire designed to collect personal data of samples which included age, gender, and GPA.

**The teenage pregnancy prevention knowledge.** The 20-item questionnaire assesses knowledge related to pregnancy prevention, consequence of teenage pregnancy, and resources. The questionnaires comprised of 9 negative items (1, 3, 6, 9, 11, 13, 15, 16, and 17) and 11 positive items. Response options were true (1) and fault (0). Scores ranging from 0-20. The level of knowledge can be categorized to 5 levels: scored between 0-4 mean very low, scored 5-8 mean low, scored 9-12 mean moderate, scored 13-16 mean good, and scored 17-20 mean very good. The scale reliability KR 20 was .90.

**The teenage pregnancy prevention attitudes.** The 20-item questionnaire assesses the opinions, feelings, and beliefs of nursing students towards teenage pregnancy prevention. The questionnaires comprised of 9 negative items (4, 8, 9, 10, 14, 15, 16, 19, and 20) and 11 positive items. Response options were 5-point Likert scales strongly disagree (1), disagree (2), moderate agree (3), agree (4), and strongly agree (5). Scores ranging from 0-100. The level of attitudes can be categorized to 5 levels: scored between 0-20 mean very low, scored 21-40 mean low, scored 41-60 mean moderate, scored 61-80 mean good, and scored 81-100 mean very good. The scale reliability was .85.

**The teenage pregnancy prevention self-efficacy.** The 22-item questionnaire

assesses self-efficacy on teenage pregnancy prevention of nursing students in four area: 1) abstinence and refusal skills (4 items), 2) pregnancy prevention (3 items), 3) seeking helps and giving supports (4 items), and 4) youth leader of teen pregnancy prevention (10 items). Response options were visual analog scale from 0-10. The level of self-efficacy can be categorized to 5 levels: scored between 0-44 mean very low, scored 45-88 mean low, scored 89-132 mean moderate, scored 133-176 mean good, and scored 177-220 mean very good. The scale reliability was .90.

### Procedure

The control group received regular nursing curriculum on adolescent health promotion (Table 1). Teaching methods were using classroom lecture and self-study for a total of 6 hours. Session one was concepts related to adolescent health promotion. Session 2 was teenage pregnancy situation and consequences. Session 3 was contraception methods and sexual transmitted disease prevention.

The intervention group received the 10 hours education program based on *Kolb's model* of experiential learning for *promoting knowledge, attitudes, self-efficacy leadership in preventing and providing supports in teenage pregnancy*. The program comprised of 6 sessions (Table 1). All contents came from the survey results conducted on teenage students, school teachers, nursing students, and review literature.

Table 1 Educational content related to teenage pregnancy and sexuality education of control and experimental groups

Group	Content	Teaching method	Time (minute)
Control	1. Conceptual model of promoting adolescent health and development	Lecture	180
	2. Teenage pregnancy situation and consequences	Self-study	90
	3. Contraception methods and sexual transmitted disease prevention	Lecture	90
Experimental	1. Current situation of teenage pregnancy	Lecture	60
	2. Circumstances and events lead to sexual intercourse	Small group discussion/VDO	120
	3. Contraception methods and sexual transmitted disease prevention	Demonstration	180
	4. Support and Guidance for pregnant teen	Small group discussion/VDO	60
	5. Refusal skills or Saying No to Sex	Role play	90
	6. Complications, Risks, and Dangers of Abortion	VDO/Lecture	30

## Data analysis

Personal characteristics data of participants, and GPA were analyzed using frequency distribution, percentage, average mean, and standard deviation. The level of knowledge, attitudes, and self-efficacy towards teenage pregnancy, pregnancy prevention including ability in providing support and resources of nursing students were analyzed using mean and standard deviation. Dependent t-test was used to compare the average mean score different of knowledge, attitudes, and self-efficacy towards teenage pregnancy, pregnancy prevention, and counseling of nursing students between before and after educational course. Independent t-test was used to compare the average mean score different of knowledge, attitudes, and self-efficacy towards teenage pregnancy, pregnancy prevention, and ability in providing support and resources of nursing students between the control and experimental groups.

## 3. RESULTS

Majority of participants were female (90.24 % in both groups) with mean age of 19.90 (SD=.44) in control group and 19.71 (SD=.60) in experimental group. The average GPA was 2.74 (SD=.36) in control group and 2.67 (SD=.29) in experimental group. Table 2 showed average scores of knowledge, attitudes, and self-efficacy at pre-test of both groups. Nursing students were found to have knowledge, attitudes, and self-efficacy related to teenage pregnancy at good level. The mean score of teenage pregnancy prevention knowledge was 13.32 (SD=2.29) in control group and 13.22 (SD=2.33) in experimental group. The mean score of teenage pregnancy prevention attitudes was 77.17 (SD=5.89) in control group and 77.22 (SD=5.26) in experimental group. The mean self-efficacy score of teenage pregnancy prevention was 162.05 (SD=27.78) in control group and 169.59 (SD=23.76) in experimental group. All pre-test scores were not significantly different between control and experimental groups.

At post-test the mean knowledge and self-efficacy scores on teenage pregnancy prevention of the experimental group were significant higher than the control group (Table 2). However, the mean scores of attitudes toward teenage pregnancy prevention between the control and experimental groups was not reach statistic significantly different level.

Table 2 Comparison mean pre-test scores of knowledge, attitudes, and self-efficacy on teenage pregnancy prevention of nursing students between groups

	Score	Control (n=41)	Experiment (n=41)	<i>t</i>	<i>P-value</i>
		Mean (SD)	Mean (SD)		
Pre-test	Knowledge	13.80 (2.29)	13.22 (2.33)	-.19	.85
	Attitude	77.17 (5.89)	77.22 (5.26)	.04	.97
	Self-efficacy	162.05 (27.77)	169.59 (23.76)	1.32	.19
Post-test	Knowledge	13.80 (2.31)	17.49 (1.80)	7.93	.01
	Attitude	78.83 (5.32)	80.18 (7.15)	.96	.34
	Self-efficacy	171.68 (23.15)	189.44 (18.39)	3.79	.01

Table 3 demonstrated that nursing students in the experimental group who participated in experiential learning to prevent and provide supports for teenage pregnancy had significantly higher scores of knowledge, attitudes, and self-efficacy than the control group who attend regular class. There was not statistical different on teenage pregnancy prevention attitude at post test in the experimental group.

When examined in more detail in Table 3 found that the mean knowledge scores and self-efficacy scores of experimental group were at very good level. Whereas the mean score attitude toward teenage pregnancy prevention was at good level with 80.18 which is very high but not reach scores of 82.0, the cut point of very good attitude level.

Table 3 Comparison mean pre-post test scores of knowledge, attitudes, and self-efficacy toward teenage pregnancy prevention of nursing students between groups

	Variables	Pretest		Posttest		t	p-value
		Mean (SD)	Level	Mean (SD)	Level		
Control (n=41)	Knowledge	13.80 (2.29)	good	13.80 (2.31)	good	1.13	.27
	Attitude	77.17 (5.89)	good	78.83 (5.32)	good	1.67	.10
	Self-efficacy	162.05 (27.77)	good	171.68 (23.15)	good	3.88	.01
Experiment (n=41)	Knowledge	13.22 (2.33)	good	17.49 (1.80)	very good	10.33	.01
	Attitude	77.22 (5.26)	good	80.18 (7.15)	good	2.61	.05
	Self-efficacy	169.59 (23.76)	good	189.44 (18.39)	very good	5.49	.01

#### 4. DISCUSSIONS

This study examined the effects of integrating Kolb's experiential learning theory in teaching adolescent health promotion on pregnancy and prevention to undergraduate nursing students. Results showed that this learning program enhanced knowledge, attitudes, and self-efficacy of undergraduate nursing students toward teenage pregnancy and prevention.

Nurses as an important health personnel need to sort through all layers of obstacles that challenge adolescents' ability to prevent pregnancy during teenage years. Nursing students should be able to apply knowledge and develop skills appropriate to process in promoting health and prevent problems of teenage pregnancy. Analytical and creative thinking are needed for the nursing students to find the holistic care solutions in the context of family and society of the adolescent and to effectively manage the problems.

Experiential learning theory emphasizes emotional respond as important process of

learning.(Kolb, 1984). Combination of experiential learning strategy through watching VDO clip interviews of pregnant teens allows nursing student to understand the motivation and events that lead teenagers to sexual intercourse. This hands on experience provoked the thought process of nursing students to effectively handle health problem and adverse consequences related to teenage pregnancy. (Hauer, Straub & Wolf. 2005, 177-182).

To effectively provide health promotion and disease prevention for adolescents in 21 century, nursing students need to gain insight and sensitive about life circumstances of teenagers before implementing any strategies toward teenage pregnancy. These methods of learning provide nursing students knowledge concerning teenage pregnancy and contraception that tailored to problems Thai adolescents currently face. The program improved the mean knowledge scores and self-efficacy scores on teenage pregnancy prevention in terms of abstinence, refusal skills, contraception, seeking helps, giving supports, and leadership for teen pregnancy prevention of experimental group from good level to very good level. This program provides learning opportunities so that nursing students could develop skills to solve health problem of adolescent and promoting pregnancy prevention. Nursing students need to enable skills that teenagers should be equipped in order to appropriate refuse or to delay early initiation of sexual intercourse. Hopefully, through these experiential learning nursing students will find ways of lending help for adolescent to be deeply respected and not to fall in the walk of shame because of physical temptation but for the marriage relationship.

## 5. CONCLUSION

There is evident of increasing knowledge, attitudes, and self-efficacy of nursing students in preventing teenage pregnancy. It could be concluded that the teaching and learning by giving the nursing students to exposed to lived experiences and underwent reflective experimentation enabled the students to develop knowledge, attitudes, and self-efficacy towards teenage pregnancy prevention. Therefore, the following suggestions had been proposed.

- (1) The Bachelor of Nursing Curriculum should develop experiential-learning based training programs with the minimum duration of 10 hours not less to work as youth leader.
- (2) This paper suggests benefit of utilizing the experiential learning in undergraduate nursing program to promote health and well being of adolescent complimentary to regular classroom.

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## **Cognitive-Possession and Social-Process Perspectives of Organizational Learning and Organizational Knowledge: Coherent or ‘Neutralistic’ Integration in the Education Context?**

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### **ABSTRACT**

Studies of organizational learning and organizational knowledge have been dominated by what are termed as the ‘cognitive-possession’ and ‘social-process’ perspectives. ‘Cognitive-possession’ perspective, a traditional cognitive understanding, views organizational learning as an acquisition process and knowledge as a product. ‘Social-process’ perspective is often understood as a social constructionist understanding of learning in communities of practice. Though both perspectives have often been considered to be incompatible with each other, researchers have tried to integrate or suggest its complementary roles. In educational context, the two perspectives are reframed broadly as organizational learning theory and socio-cultural learning theory. They are generally viewed as compatible and have been situated as macro-micro level perspectives. The cognitive-possession perspective guides school reforms by focusing on school leadership and administration while the social-process perspective focuses on the core technology of teaching and learning. The author reviews the ‘bipolarity’ of the organizational learning field and its ‘neutralistic’ integration in the education context. A call is made for greater clarity in understanding organizational learning and organizational knowledge so as to provide better understanding of organizational learning in educational/school context.

**Keywords:** organizational learning, organizational knowledge, learning organization, socio-cultural theory, school reforms

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## **The Effects of Free writing Activities on Writing Skill of Matthayom Suksa 1 Students**

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### **ABSTRACT**

In the year of 2010, this the experimental research was conducted which the one group Pre-test and post- test Design . The objectives of the research were to compare the effects of freewriting activities on the writing skills between pretest and posttest of the Matthayom suksa 1 (grade 7) students, and the Satisfy on the Freewriting Activities. The hypothesis were : (1)The sample who joined the Freewriting Acitivity on English Writing Skills will have higher score on the posttest than pretest with statistical significant difference at .05. (2) The sample who joined the the Freewriting Acitivity on English Writing Skills will Satisfy at Much Satisfy level at the posttest. The sample consisted of 35 students, whom were drawn by random sampling. The 22 activity sessions of free writing of 50 minutes in each session were facilitated to the sample. Each freewriting session composted of 2 activities. The first activity was Fluency or think, write and count at the warm up period for 5 minutes.The second activity of freewriting: Accuracy : writing without stopping was assigned to students for 10 minutes before the end of class or at the production period. The 2 instruments were administrered . The first instrument was 2 pictures : pretest was a Birthday party and posttest was a Picnic party. Students were assigned 20 minutes to use freewriting to describe each picture on pretest and post test. T-Unit was used to analyze and count the completed sentences and completed vocabularies on the pre-test and post-test. Each completed sentence was analyzed as one T-Unit. The completed vocabularies were counted. The second instrument was a Questionnaire on Satisfy of the Freewriting Activity with 5 rating scales. The t-test was used to analyze the data. The result confirmed the hypothesis that students have English writing skills on the postest higher than the pretest with statistical significant difference at .05. Also the result revealed that students satisfied the Freewriting Activity at the Much satisfy level.

Keywords : Freewriting Activities, Writing Skill, T-unit, Fluency, Accuracy

### **1. INTRODUCTION**

English language is accepted as the international language . Lam (Lam,Kam –Mei J.,2002) agreed that when the world became to the globalization , people around the world could communication, and contact each other by using English as the international language and leading language for exchanging their experiences, concepts and ideas on the different fields such as academics, economics, politics, social and culture. As a result, learning English became more important and in needed for students to use as the medium for searching higher knowledge about careers, people from other countries, social and cultures, cooperation, and understanding between people. All of these knowledge could lead students to have good attitude and global vision. Thai Curriculum obtained the English language as the second language for students at the secondary level education. In order to enhance students 's English skills, it is required learning activities to cover both in class and out of class, which

focused on practicing on 4 skills, listening speaking, reading and writing. These English learning activities and skills should facilitate learner independent and lifelong learning. Writing skills is considered to be the most difficult skills for all students to learn because writing skills needed students to realize about structure of language. The researcher has been interested in the works of Elbow (Elbow, 1995) who has developed Freewriting skills. Elbow himself had the obstacles from writing English because of concerning about the language structures. Therefore he started to write without fearing about the wrong spelling and structures. He found that he could write more than he expected. Elbow (Elbow, 1998) challenged the writers on his book: *Writing without Teachers* in 1973. Since then, the book has been referent book on the Freewriting. In 1998, Elbow (Elbow, 1998) reprinted the book again as 2ed. He also confirmed that writing skills were not difficult any more if the writer practiced writing about everything that happened to him/her about 5- 20 minutes each time. In the book of Elbow and Belanoff (Elbow and Belanoff,1995,pp11-14) "A Community of Writers", the researcher summarized that Freewriting means nonstop writing about whatever is on your mind or whatever you want to expore. Don't worry about spelling or grammar. The main thing in freewriting is trust yourself and your words: taking a spirit of adventure. Therefore in this research Freewriting Activities were consisted of 2 activities: Fluency Activity was Think, write and count activity for 5 minutes before the class began or the Preparation stage and Accuracy Activity was Freewriting activity for 10 minutes before the end of the class, or the Production stage.

For the measurement and evaluation of the writing skills, the 2 pictures were used as the instruments to encouraged students to write. Duncan, (Duncan,1983, pp.345-352) proposed that on selecting pictures for students to write should included of interesting things, different colors, movements, and closed living of students. Moreover, Gardner (Gardner,2004) suggested that using pictures as the means for students to describe the story freely could open their experiences as quoted that "A picture's worth a thousand words". Therefore using pictures as the instrument for students to describe openly could encourage students to expore their imagination. As a result, the researcher applied 2 pictures as the instruments to students for Freewriting. The researcher used the T-unit to analyze the freewriting scores in this research. Hunt( Hunt,1965) created T-unit for his research about English writing skills. He found that T-unit was an effective for analyzing both fluency and accuracy in English writing skills.

#### **Research hypothesis were:**

- (1) The Sample who joined the Freewriting Acitivity on English Writing skills will have higher scores on the posttest than pretest with statistical significant difference at .05.
- (2) The sample who joined the the Freewriting Acitivity on English Writing skills will Satisfy at Much satisfy level at the posttest.

#### **Research methodology**

This experimental research aimed to study the Effects of Freewriting Activities on Writing Skills of Matthayom Suksa 1 (grade 7) Students in the year of 2010. The population was 6 classes of matthayom suksa 1 students who are studying English subject in the second semester 2010. The sample was one class, 35 students, which was drawn by simple random sampling. Before the research began, the researcher informed the sample about the process of research and asking for the students volunteer to share on the research as the following:

**“ Dear my students, I would like to inform all of you that my research activities will run for all the semester . Every Student will learn ,join and practice the activities and exercises at the same time . However , if there is any student who feel unwilling , absent , come late or cannot come on time for the first activity which is Fluency activity or Writing vocabulary activity : Think, write and count for 5 minutes on the preparation period, or if any students who does not join and practice on the second activity which is Accuracy activity or Sentence Free writing for 10 minutes before the end of the class ,if any students who does not join and practice on the keep that student ‘s unperfected work on my research work. ”**

**Program of Freewriting Activities:** English learning plans for 22 programs with 1 hour/program were applied for Freewriting Activities.

**Instruments :** There were 2 instruments

- (1). English skills test
- (2). Satisfying Questionnaire.

### **Program construction**

1. **English learning plans** for 22 programs or hours of learning on the Free writing activities. Each program was spent one hour for learning . The researcher worked on the following steps: studying about the Thai English Curriculum on the year of BC. 2551 ( AC. 2008 ) for the grade 7 students. The objectives of learning English as second language included of 4 standard substances : English for communication, for language and culture, for language related with other substances or field of subjects, and for related with communities and world.

The researcher studied related literatures concerning about principles , theories for constructing English learning plans by applying 3 books which were : (1) My World 1: Teacher manual, ( Wanida Wirirat and Thanomjit Sungjaroon , 1991) the researcher based on this book for created English learning plans from 2 chapters: Chapter 8: Nice House: House and home , and Chapter 9 : Smile ! : Holidays. (2) My World 1 Students Book (Santos, BC.2552) and (3) My World Work Book (Santos, 2006). Also the researcher studied related literatures about English learning plans , leaning activities and substances of English curriculum for Matthayom 1-3 ( grade 7-9) then the researcher designed her 22 English learning plans . Each plan included the following: Firstly: Main substance were included 6 substances : summary of the chapter, objectives of learning which based on standard of learning, skills and process, main concept, sustainable understanding, learned and practiced behavior and satisfied behavior, empirical work of students from observing, tests and evaluation, contents and activities, educational media and learning resources, and feedback after learning. Secondly: Learning activities were composed of 5 activities :Warm up, presentation, practice, production and wrap up.

2.**Free writing Activities:** the researcher studies the related literatures and books about Free writing activities ( Elbow,and Belanoff,1995, 2th ed.) and created and selected 2 effective activities : (a) Fluency activity or Writing vocabulary activity: Think, Write and Count for 5 minutes on the Warm up period. At the warm up period before learning was begun, the fluency activity required students to think and write vocabulary for 5 minutes without stopping writing. After finished writing , students counted vocabulary and wrote al the words on the right top of the paper. (b) Accuracy activity or Sentence Freewriting for 10 minutes before the end of the class or the production period . This activity required students to write in sentence or phrases continuously without stopping writing . These sentences may be related

story or may be single different sentences.

For checking the validity of 22 English learning plans after finishing the steps 1.1 and 1.2 , the researcher invited 3 experts : a foreigner who is an English teacher, and 2 professors of the Faculty of Education, Burapha University , Chonburi,Thailand to check the IOC of the English learning plans . The IOC is .60. After acquiring the acceptable IOC , the researcher used the English learning plans for her experiment.

### **Instruments construction**

**English skills tests :** The English skills tests were administrated for both pretest and posttest . The tests were selected 2 pictures from the My World 1 Student Book ( Santose ,2552 p.39 for pretest and p.69 for posttest). The researcher studied and founded that Elbow (Elbow,1994) suggested to use freewriting skills as the most effective measurement and evaluation on any writing skills . The method should give the opportunity to students to describe, explain their ideas, thinking, imagination with the prompt words with the pictures. Then teacher diagnosed that writing work. As a result, the researcher decided to use the 2 pictures as the instruments for testing students' writing skills. In order to check the validity and reliability of this tests, 3 expert were invited to select 2 pictures from the My World 1 Students Book (Santose, BC.2552, 4ed.) . The result found that there were 2 selected pictures : first picture for the pretest was from page 39 and the second picture for the post test was page 69. The criteria for selecting 2 pictures were: (1) activity of the pictures should be appropriate to students' age , experiences which the first picture concerned about family's activity which was happy birthday party , for the second picture was about the family 's party at the public park where there were some people and animals moving around. (2) Interesting pictures concern about the attractive colors and movement of the people and animals in the pictures. The researcher tried out the 2 pictures by letting 10 grades 7 students who were not the sample used Freewriting to describe both 2 pictures which consumed time for 20 minutes for each picture. The 10 students wrote with feeling happily without any sign of worrying. In order to reduce some bias from researcher's marking the 10 students writing skills, the researcher invited 2 experts to mark the 2 tests. For comparing the scores , Jellen and Urban((Jellen &Urban, 1986) suggested that if the scores from the 2 experts were not differ for more than 4 scores , then the markings were reliable. The result found that the scores from the expert met the criteria. Therefore the method of using 2 pictures confirmed that this research could administrated 2 pictures as pretest and posttest.

**T-unit** was the criteria for diagnosing writing skills effectively as Hunt (Hunt, 1965) and Young (Young, 1995) pointed out that T-unit could use for counting writing skills with high reliability. For counting T-unit, the 2 writing abilities will be concerned: Fluency (the amount of right spelling vocabulary) and accuracy (the amount of completed sentences ) will be scores. The example are:

- (1) **Dad is eating rice.** : this sentence will be count as **1 t-unit** for the completed sentence which is composed of **Subject, verb and object**. For counting on fluency will be **4 words: Dad, is ,eating, rice.**
- (2) **She is a beautiful girl.** This is equal to 1 T-unit which composted of Subject, verb, object and adverb. For the fluency will count as 5 words: she, is a, beautiful, girl. Concerning with phrase : **go home.** This could not count for T-unit ,but could count for 2 words. The researcher invited 3 experts who are English teachers to scores T-unit , both completed sentences and phrases on the 10 students papers. The result found that there were different not more than 4 scores. Therefore the

checking confirmed highly reliability. The researcher can use T-unit method for scoring in the writing skills on this research.

**Satisfying Questionnaire** was designed for 20 items with 5 rating scales from the most satisfy to the least satisfy. Constructing the questionnaire was proceeded with the followings: (1) Studying the related literature (Boonchom Sreesaart and Bonsong Nilkaew, BC.2535) about constructing the satisfy questionnaire .The the questionnaire was designed to included 20 items from 4 areas: (a) content from the substance, and story on the chapter 8 and 9, (b) learning activities which were designed both for individual and group on Freewriting activities, students participation, group work, brain storm, and practices, (c) educational materials and resources included of books, cards, and charts, (d) measurement and evaluation were observation, questions ,test ,and practice free writing. The 5 rating scales were scores as : Most satisfy = 4.51 – 5.00, Much Satisfy = 3.51 - 4.50, Medium satisf = 2.51 - 3.50, Little satisfy = 1.51 - 2.51, And Least satisfy = 1.00 – 2.50. After the satisfy questionnaire was designed, 3 experts were invited to check the validity of the 20 items. Then revising was used to completed the questionnaire in order to administer at the posttest.

**Experimental Procedures :** This is an experimental research design to study the effects of Freewriting Activities in Writing Skills of matthayom Suksa 1 students (or grade 7 students). The sample was consisted of 35 students. The research design was One group pretest – posttest design ( Boonchom Sreesaart, 2545,p.109)

O1	X	O2
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O1 was pretest, X was learning with using freewriting acitivities and O2 was posttest .

**Collecting the data:** The researcher asked a permission from the school principal to run on the research. Then worked on the drawing the 35 sample, verify program on freewriting activities, pretest and posttest, and satisfy questionnaire. The 3 phases of research was proceeded. (1) Pretest phase was assigned to the sample to use English freewriting to describe the 2 pictures on November 2, 2009. All sample's writing works were scored by using T-unit, then kept for comparing with posttest. (2) Experimental phase , learning with using freewriting acitivities for 22 hours. The sample were facilitated on 2 writing activities: Fluency and Accuracy. (3) Posttest phase was administered to the sample to test on the freewriting skills and also answer the satisfy questionnaire. On testing for Freewritng skills, the sample again were facilitated to use English freewriting to describe the 2 pictures on February 26,2010. Then all sample 's freewritng works were scored by using T-unit. The satisfy questionnaire was administered right away on the same day after the freewriting test was administered and analyzed.

**Data analysis:** t-test was analyzed to test hypothesis and Mean and Standard Deviation were analyzed for showing the levels of learning sastisfy.

### 3 RESULT OF THE RESEARCH

Table 1. Comparing the Effects of Freewriting Activities on English Fluency skill: right spelling on vocabulary , between pretest and posttest

<b>Fluency : Right spelling</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	<b>t</b>	<b>p</b>
Vocabulary: words	49.46	18.33		
Pretest			6.204*	.000
Posttest	81.83	30.72		

Table 1. revealed that scores of English fluency skill : Right spelling on the posttest was higher scores than the pretest scores with statistics different significant at .05

Table 2 . Comparing the Freewriting Activities on Accuracy skill : completed sentences between pretest and posttest.

<b>Accuracy : completed sentences</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	<b>t</b>	<b>p</b>
Pretest	3.49	2.20	6.85*	.000
Posttest	8.40	4.40		

Table 2. showed that scores of English Accuracy skills: completed sentences on the posttest was higher scores than the pretest scores with statistical significant at .05

Table 3. Levels of Satisfy of Freewriting Activity on English writing skills of the sample

<b>Levels of Satisfy</b>	<b>n</b>	<b>percentage</b>
	<b>(35)</b>	
Least satisfy	0	0
Little satisfy	0	0
Medium satisfy	6	17.10
Much satisfy	21	60.00
Most satisfy	8	22.90

Table 3. showed that the sample satisfied at the Much satisfy level : 60.00 % and Most satisfy level : 22.90 % of the Freewriting Activity on English writing skills .

Table 4. Mean and Standard Deviation of Levels of Satisfy on Freewriting Activities of sample's participation compare with rating scales

<b>Satisfy level</b>	<b>n</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	<b>Level</b>
Satisfy level	35	4.04	.52	Much satisfy

Table 4. presented that the sample satisfied at the Much level of satisfy on Freewriting Activity of sample's participation compare with rating scales : Much level was 3.51 – 4.50.



#### 4. DISCUSSION

(1) The researcher planned to discuss the hypothesis 1 with the empirical data from the table 3 and the table 4 to accept the hypothesis 1 which stated the sample who joined the Freewriting Activity on English Writing skills will achieve higher score on the posttest than pretest with statistic significant at .05. From the table 3 showed that the sample who joined the Freewriting Activity on English Writing skills achieved higher scores on Accuracy vocabulary : right spelling at posttest than pretest with the statistic significant at .05 and from the table 4. The data presented that the sample who joined the Freewriting Activity on English Writing skills achieved higher scores at the posttest than pretest with statistic significant at .05. The result meant that the Effects of Freewriting Activities on English Writing skills were effective for training Matthayom suksa 1 students (grade 7 student) on English writing skills. According to Lannin ( Lannin, 2007 ) who used Freewriting for fluency and flow in English a Ninth grade Reading Classes. The result found that there was a statistical significant at .05. This result agreed with Thamraksa (Thamraksa,2007) who used the Freewriting Activities to develop writing skills of a Thai university students, and found that there was a statistical significant at .05 on the posttest compare to the pretest. Also Suthithatip (Suthithatip,2008) used the Freewriting for thaining Matthayom sukksa 1 students ( grade 7 studdnts) on English writing skills, and found that there was a statistical significant at .05 on posttest compared with pretest. These researches confirmed that the Freewriting Activities were effective activities for training students on English writing skills . For the test of Freewriting, Sinatra,Guastello and Beaudry (Sinatra, Guastello and Beaudry,1985,pp.399-408), presented that using the pictures could stimulated students to achieve more English writing. These researches were confirmed by Elbow (Elbow, 1994) , Elbow (Elbow,1998), Duncan (Duncan,1983), who suggested that training or practicing Fluency of the spelling the words or vocabulary might be assigned to develop students English writing skills. Moreover, Elbow (Elbow,1995, p.3) suggested that Freewriting Actiuivity on English skills could give the students of the writers more opportunities to write because the they already preserved their resources vocabulary, language structure, content and idea enough for writing. Unfortunately, they still perceived that they had little resources and not much writing skill to write. This could be happened because the writers have not started writing. Only they were assertive, and had opportunity to write, they could write their vocabulary, completed sentences , contents and ideas on the papers. Then the more time to write , the more experiences to achieve and realized that students , or the writers, still had more resources: vocabulary, completed sentences, contents, and ideas to write. As a result, freewriting could be considered as “Adventure” in using language for writing. The writers would be enjoyed writing. On a research of Lee (Lee, 2004) at a school in Japan supported that R-unit could be analyze for writing skills with measured Fluency or spelling words and Accuracy : completed sentences. The sample was japans and foreigner students who took Japanese language as a second language . The assignment was compositions from the prompt words. The research showed that there was a manifest different on English writing skills between the two group. Binder,Huaghtop and Bateman , (Binder,and bateman,2000, pp.10-11 ) and Hetzel, (Hetzel,2000) and Li,( Li,2006) agreed that Freewriting could develop students writing and also on academic writing.

(2 ) For survey result of the satisfy questionnaire: the research found that most of the students (60%) satisfied the Freewriting Acitivities on English Writing Skills at the Much level. The result confirmed the hypothesis which stated that the sample who joined the the Freewriting Acitvity on English Writing skills will Satisfy at Much satisfy level at the posttest . This research gave the students the relaxing writing

activities for writing without fear from teachers' comment on wrong writing as Elbow ( Elbow ,1998) guided on his book “ Writing without Teacher. Moreover students enjoyed writing on the relaxing processes of Freewriting Activities such as the Flency Activity with Think, Write and Count for 5 minutes at the preparation stage and the Acuracy Activity for 10 minutes before the end of the class at the production stage. Also Binder,and Bateman (Binder,and bateman, 2000,pp 10-11) and Hetzel (Hetzel, 2000,pp4-5) suggested that good writing skills for students should give the students more relaxing time for short practice time for 5-10 minutes each time in order to develop their fluencies and accuracies. In addition, the process of writing measurement using pictures as the stimulus for students to write according to their imagination freely. The method of measurement coherent to Gardner, (Gardner,2004) who pointed out that “ A picture worth a thousand words” . There fore using pictures as the stimulus could give good opportunities to students to present their opinions , and imagination on writing . As a result, teachers should applied some of pictures for evaluation students's different abilities on writing skills in order to evaluate the students realistic achievement on English writing skills.

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## Research of Accounting Simulation Experiment Teaching Mode for Modern Distance Education

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### ABSTRACT

Accounting simulation experiment is an important practical teaching of modern distance education. It can not only improve the students' practical ability, but also deepen their understanding of basic accounting theory and understanding of the accounting work intrinsically linked. The teaching characteristics of modern distance education determine accounting simulation experiment can't use field practice teaching mode or accounting simulation laboratory teaching mode, and it must use multi-media network accounting simulation laboratory teaching mode.

Keywords: Modern distance education; Multi-media; Network; Accounting simulation experiment

### 1. INTRODUCTION

Modern distance education is also known as network education. Its teaching characteristic is network as the carrier(Wu Bin & Cui Hongyan, 2012, p.107-109), teachers and students quasi permanent separation condition in time and space, and students' learning exempted from the limitations of time, regional and teacher. Teaching and learning can be synchronous or asynchronous, and completely break the single mode of traditional classroom teaching. According to individual needs, student can scientifically arrange learning at any time and place according to his own progress.

Accounting is a discipline that has strong practicality and operability(Yin Aizhen, Geng Yanjun, & Tian Xuefeng, 2008, p.77-78). Its practice teaching has always occupied a very important position, and simulation experiment as a more effective way is particularly important in modern distance education. Simulation experiment teaching can promote the combination of accounting theoretical knowledge and practical work. At the same time, accounting simulation experiment teaching can also guide students to focus on training the ability to analyze and solve problems.

Most students of modern distance education are on-the-job employees. They have their own work experience but lack of related professional knowledge. Although after learning, their accounting theory has a certain improvement, but their practical ability is still poor. If we arrange accounting professional courses according to the traditional teaching mode, it will make the experimental teaching become a mere formality. In

view of this situation, and at the same time, combined with modern distance education teaching characteristics, accounting professional simulation experiment can not take past field practice teaching mode or accounting simulation laboratory teaching mode. It must use multi-media network accounting simulation experiment teaching mode which combined multi-media and network.

## **2. MULTI-MEDIA NETWORK ACCOUNTING SIMULATION TEACHING MODE AND ITS CHARACTERISTICS**

Multi-media network accounting simulation teaching mode uses multi-media CAI courseware as the main part, and bases on the computer Internet as the means. It has the following significant features:

First, the multi-media practice teaching is vivid, image, rich and complete, with a highly expressive and appealing. It can easily arouse emotions reflect of students, inspire positive thinking, and mobilize their enthusiasm for learning. The teaching contents have selectivity and can be crossed.

Second, network practice teaching can be exempted from the limitations of time, space and geography, and can share teaching resources to let practical teaching achieve the true sense of long-distance, open and modern.

Third, the multi-media network practice teaching can let practice teaching proceed in open information environment.

## **3. MAIN PROBLEMS EXISTING IN MULTI-MEDIA NETWORK ACCOUNTING SIMULATION TEACHING MODE**

### **3.1 Accounting Simulation Experiment can not Meet the Requirements of Diversified Teaching Objectives**

Modern distance education is a new training model in order to meet the needs of the popularization of higher education and lifelong education. Its remote and openness characteristics determine its teaching goal is diversified(Liu Shiyu, 2009, p.10-15).

The students of modern distance education are from different industries and units. Their jobs, work experience, industry background, and positions determine their demand for accounting simulation experiment is diversified. A student long-term engaged in accounting work may pay more attention to the improvement of financial analysis and financial management capability, and a just participate in accounting or the specialist segment non-accounting major may feel that there is not enough accounting practice that the accounting simulation experiment provided. At the same time, the current accounting practice teaching pays more attention to the single goal of "general education" and neglects to meet the individual needs of students.

In addition, the economic business accounting simulation experiment involved are almost manufacturing firms, ignoring the individual differences of students. The practice teaching should strengthen pertinence and expand economic business of the relevant industry to meet the diverse requirements of the teaching objectives.

### **3.2 Accounting Simulation Experiment Emphasizes the Ability of Accounting, while Ignoring the Ability of Management**

The accounting simulation experiment mainly emphasizes the cultivation of the accounting ability. Its teaching focus is accounting treatment and it focuses on the

ability of processing and reflecting accounting information. But with the development of market economy and the increasingly fierce competition among enterprises, the function of forecasting, decision-making, analysis and assessment are increasingly important for managers and accounting information users. If accounting simulation experiment is still stuck in the accounting treatment, even if the students can complete accounting simulation operation very well at school, the actual capacity is still far away to meet the needs of enterprise management.

### **3.3 Accounting Simulation Experiment not keep up with the Development of Accounting Theory and Practice**

Accounting, as an important branch of modern management disciplines, is closely linked with social and economic development. With the rapid development of China's national economy, the relevant laws and regulations, accounting system, accounting procedures, accounting methods and analytical methods are constantly changing. It requires the accounting simulation teaching contents shall be updated to keep up with the development of accounting theory and practice. The lag of simulation experiment teaching contents mainly manifest in two aspects. First of all, they follow the old materials and old ways years ago. With today's system and method, there are many disjointed. There is an urgent need to update. Secondly, they seriously lag behind in reflecting the accounting discipline hotspot.

### **3.4 Hand Simulation Experiment Disrupted with Computerized Simulation Experiment**

At present the content of the accounting simulation software although is very rich, but is still simulation hand book, far from the true sense of computerized accounting simulation(Liu Yongze, Wu Dajun, Liu Shulian, & Liu Yuanyuan, 2004, p.75-77). Of course simulation manual book can let the students have a clear understanding of the accounting treatment process, but computerized accounting software could save experimental time and improve the efficiency of the experiment. We should actively implement manually combined with computerized accounting experimental model. Using this model, students can not only master manual accounting business processing process, but also can be familiar with processing methods of computerized accounting software. This kind of means can make students better adapt to the actual needs of the society for accounting talent.

### **3.5 Experimental Guidance Teachers Lack Practical Work Experience and Computer Skills**

At present, the accounting simulation experiment is guided by accounting professional teachers. These teachers are mostly from school to school, and have no accounting work experience. It is very difficult for them to teach accounting practical application clearly. They can only use their theoretical knowledge to guide students to conduct business operations. But the theoretical knowledge and practical work have a certain gap, so the instructors' explain often cannot let the students convinced. In addition, with the combination of multi-media technology and network technology in teaching, teachers are required not only to improve the traditional teaching methods and means, to supplement and update accounting knowledge, but also to understand the basic computer knowledge and basic skills, and comprehensively improve cultural and technical quality. Some teachers lack of dedication and sense of responsibility, and pay no attention to the usual professional knowledge accumulation. Therefore, they can not do the job well, and cannot reach the expected teaching effectiveness.

### **3.6 Students have not Enough Practice Time**

Simulation experiment is carried out on the computer. Most of the students do not have enough practice time because the lack of equipment or too many experiment contents. Ultimately, the experimental results are affected. Students practice accounting documents more than other contents. Some students even cannot fulfill the practice tasks and directly plagiarism answers.

#### **4. RECOMMENDATIONS OF THE MULTI-MEDIA ACCOUNTING SIMULATION TEACHING MODE**

Improve and perfect the practice teaching activities of accounting profession can not only consolidate the knowledge of accounting theory, but also can significantly improve the students' operational capability. In the face of the problems of accounting practice teaching, we should take the following means and measures in order to achieve the goal of training applied talents.

##### **4.1 Advancement of Accounting Software**

Accounting software development is the fundamental of accounting simulation teaching. Don't mention multi-media network accounting simulation teaching if there is no good accounting software. We should concentrate the wisdom of the business expert, professional teachers, economists, and multi-media software development experts, and choose classic business practice contents to development a truly networked multi-media CAI practice teaching software. In the production, vivid and realistically display original vouchers, accounting documents, financial statements, notes, business operation tools, business process, business environment as authentic as possible by using advanced multi-media technology. In the content, fully reflect the real economic business as far as possible.

##### **4.2 Hierarchy of Accounting Software**

Accounting software should set multi-level business practice contents, easy-to-digest, so that students can select the appropriate level according to their own condition and need. The accounting software should provide self-assessment system of all levels for students to proficiency tests and decide whether to enter the high-level business practice. For example, for financial accounting practice teaching, first of all, provide primary business contents of Basic Accounting for beginners. Secondly, provide a higher level of general business contents of Intermediate Financial Accounting. Finally, provide high lever of diversification enterprise groups and multinational companies business contents of Senior Financial Accounting.

##### **4.3 Create Information Environment for Multi-media Network Accounting Simulation Teaching**

Make connection between multi-media network accounting simulation software and related economic networks, so that students can extract real, dynamic accounting professional information and other economic information at any time. For example, we can set up the interface between teaching practice network and accounting, finance, prices, product information networks, so that students can directly extract real, timely economic information.

##### **4.4 Improve Quality and Operation Ability of Accounting Professional Teachers**

High-quality teacher group is the key to improve the quality of teaching, especially the goal of modern distance education is training applied talents and practice-oriented teaching is its main characteristic. So, accounting professional teachers engaged in distance education should have a comprehensive knowledge reserve compared to ordinary colleges and universities.

First of all, create a good academic atmosphere. Teachers should go out of school into society to carry through a full range of accounting practice activities in accordance with the needs of different levels, and to improve their ability to operate. Hire experts to conduct demonstration lectures according to teaching need to strong the accounting profession academic atmosphere and improve the teachers' professional level.

Secondly, often organize job training and practical competition. Most accounting courses have practice-related skills project, such as audit bills, bookkeeping, preparation of statements and financial analysis. Organizing competitions can promote the deepening of teaching activities and enhance the relevance and applicability of the teaching.

Finally, increase double qualified teachers(Liang Shaohua, 2008, p.74-75). This is a basic requirement of universities, and the general characteristic of modern distance education. Teachers are required not only have professional qualifications such as lecturer, associate professor, professor, but also have practicing qualifications such as accountants, economists, auditors, tax accountants, so as to meet the requirements of modern distance education teaching.

#### **4.5 Mobilize the Students' Learning Initiative through Group Interaction Learning Method**

Teachers not only need continuous improve and innovate original teaching means and methods, but also need teach students in accordance with their aptitude. The practice teaching process can also try the group interaction learning method. Students are divided into some study groups. Each study group is the simulation bursary and team member is the finance department staff. Everyone bears different post role. Practice teaching tasks are completed in a pleasant learning environment. Stimulate students' interest in learning by let practice teaching content abstract into specific, boring into vivid as far as possible. Make the passive learning style become active exploring learning way to improve accounting professional practice teaching quality and achieve the expected teaching efficiency and teaching effects.

#### **4.6 Establishment of Multi-media Network Accounting Simulation Teaching Information Feedback System**

Set up multi-media network accounting simulation teaching information feedback system. The feedback system can enable students report various problems, new ideas and new methods arising in the process of business practice back to experiment guidance teachers and other students. Some issues can have wider discussion via the Internet. Through communication, inspire and collision, practice process can be conducted in real modernization, information interaction condition.

### **5. CONCLUSION**

The current economic society is increasingly demanding high quality accounting personnel. Practical talents with strong practical ability are more welcomed by society. Through practice teaching to improve the practical level of accounting graduates has become essential. In order to adapt to the needs of the market economy, we should pay more attention to accounting simulation experimental teaching work. The implement of multi-media network accounting simulation experiment teaching mode, will provide a solid guarantee for training accounting practical talents of modern distance education.



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## **Distributive Leadership: Hierarchical Hegemonies and Policy Challenges in African Schools**

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### **ABSTRACT**

This paper examined notions of distributed leadership against cultural antecedents in engendering creativity, democracy and development efforts, particularly in Africa, based on educational policies. Because schools are widely regarded as critical repositories of social and moral values, the paper interrogated the feasibility of achieving liberal democratic and cosmopolitan societies under the limiting frame of largely authoritarian and hierarchically hegemonic school cultures where teachers and school leaders often exercise unquestioned authority. Distributed leadership, whose bedrock concentrates on the interactions rather than on actions of leaders and on the exercise of influence rather than authority, is posited as having an overarching appeal towards modeling moral and accountable citizens in a value laden society. It may also engender a healthy culture of knowledge creation and sharing in a 21st century information age, a feature which is critical for learning institutions. Using an interpretive paradigm and critical discourse analysis, a review of school organizational cultures through students' poetry, 10 interviews on Namibian educators and 60 semi structured questionnaires on Zimbabwean and Tanzanian school principals and teachers was conducted. A view was posited as to whether the inherently bureaucratic and hierarchical school cultures were not negatively impacting educational and national goals. Historical and contemporary glimpses of leadership distribution were also noted in some parts of Southern Africa with positive indicators on leadership distribution despite the conflictual tensions that arise. The study noted immense cultural and structural challenges that may continue to inhibit distributive leadership thus impacting negatively the hyped about national goals.

Keywords: Distributed leadership; Hierarchical hegemony; Education; Policy; Africa;

### **1. INTRODUCTION**

Distributed leadership is presented as a tool to broaden leadership influences and realize leadership potential in both learners and teachers, which may positively impact educational outcomes. In most African education systems there exist a conflictual disconnect where Ministries of Education have 'well-meaning' mission and vision statements particularly on producing skilled, critical thinking, creative and democratic citizens, (Namibia Ministry of Education 2012; UNESCO, 2001; Botswana Ministry of Education & Skills Development, 2012; South Africa Basic Education Department, 2012), yet the heavily bureaucratic and hierarchically hegemonic school cultures still obtain, with greater negation to national aspirations embedded in vision and mission statements. Aristotle cited in Harber (1995: 1) once observed that 'it is useless to have the most beneficial rules of society fully agreed on by all who are members of the polity if individuals are not going to be trained and have their habits formed for that polity'. This implies that leadership practices in school and the cultures that leaders

bring should be such that when imbibed by students, contribute to the accomplishment of national goals.

The schools are widely regarded as critical repositories of social and moral values at national level (Forster, 1993, cited in Gould, 1997; Garratt, 2011) and as such must engender leadership and cultural traits that are more likely to meet national aspirations such as Vision 2030 in Namibia (National Planning Commission Secretariat 2004), and Zimbabwe's vision 2020 (National Economic Planning Commission, 1996). The inhibitive factors to educational growth created largely by heavily hierarchical and bureaucratic practices were brought to the fore and distributed Leadership posited as a useful tool and attitude that can help 'flatten' the hierarchical pyramidal structures. It is observed that in the world over, organizations, including schools, have been built and studied on the basis of the concept of leaders directing others to fulfill a vision conceived and designed by them, but this paradigm has been challenged and new epistemologies have emerged that suggest that the eye at the top of the pyramid is often blind to the realities of the workplace below (Jackson, 1992).

In education there has also been a gradual shift towards emphasis on educational leadership, which is seen as an exercise of influence rather than authority (Bush, Bell & Middlewood, 2009). This notion is linked to contemporary epistemologies in distributed leadership (Harris 2008; Spillane and Diamond 2007), where there is loosening of formal roles within an organisation, thereby allowing those below the hierarchy, such as teachers and students, to exercise some level of power and influence. Distributed leadership is therefore a system of practice which comprises a collection of interactions; leaders, followers, and situation. These interactions must be understood together because the system is more than the sum of the parts or practices (Spillane, 2005).

## **2. LEADERSHIP AND SCHOOL CULTURE**

It is important to note that school organizational culture and leadership are two sides of the same coin (Ngcobo, 2008) and a strong link often exist between school cultures and academic performance (Stolp, 1994; Prosser, 1999; Lumby, 2003). School cultures and Leadership practices are therefore critical to educational outcomes considering that institutions are interactionist and laden with inter-personal relationships upon which success depends.

## **3. COLONIAL PAST AND THE LEADERSHIP CHALLENGE**

The Namibian Ministry of Education, (2012) for example states that when Namibia became independent in 1990, education in the country was best characterised by a fragmentation of education along racial and ethnic lines; unequal access to education and training at all levels of the education system; inefficiency in terms of low progression and achievement rates, and high wastage rates; Irrelevance of the curriculum and teacher education programmes to the needs and aspirations of individuals and the nation; and lack of democratic participation within the education and training system. It goes further to state that teachers, parents, administrators and workers were largely excluded from the decision-making process in education.

The characterization above depicts a cultural model of apartheid whose oxygenation was heavily rooted in a repressive hierarchical hegemony which negatively affected schools and resulted in impeded progress for the majority. In a new Namibia and elsewhere in Africa the question is to what extent do principals and

head-teachers' attitudes create a culture of distribution of power in their schools where every school member's leadership potential is valued and developed rather than demeaned and equated to "boy" status as under apartheid. It is noted that in most African school communities where paternalistic ideologies still obtain (Ncube, 1998; Indabawa, 1997) school practices are often submerged in a hierarchical hegemony whose cultures muzzle pupils' and teachers' creativity, leadership potential, democratic attributes thus adversely affecting national aspirations, despite beautiful Education mission statements that are a pointer to a cosmopolitan society (Osler & Starkey, 2005).

For some in leadership, as Tocqueville in Wepman (1985: 9) observed, 'it is easy to issue commands and enforce them.' Submerged in anti-dialogism, issuing commands becomes an appealing option to those in authority because it does not only help them concentrate power in themselves (Polyarchy Organisation, 2003), but it also claims that it 'saves' time. It is noted that the notion of a passive subordinate, 'child-like' nature grows out of a twentieth century and western reconstruction and also out of pre-colonial and pre-capitalistic African societies which were heavily hierarchical. In both constructions, children and subordinates are to be seen not heard (Grier (2006). But Berlin (1969) has argued that if the essence of Men is that they are autonomous beings - authors of values, of ends in themselves, then nothing is worse than to treat them as if they were not autonomous, but natural objects, played on by causal influences. Freire (1970) further commented that educators should socialize learners into active 'namers of the world' and not let others name the world for them. Some school leadership attitudes that are oppressive to the creative human spirit of teachers and students are non-congruent and anathema to national educational aspirations.

#### **4. THE HEROIC, CHARISMATIC PRINCIPAL REVISITED**

It may be true that a school principal find a failing school and then turn it around in a short space of time and thus earn themselves a heroic status. What observers often forget in their haste to crown a principal heroic is the appreciation of how complex the art of school leadership is and that it may be near impossible for a single person to accomplish this 'mission impossible' (Spillane, 2005). Yukl (2009) has also argued that understanding leadership is not only arbitrary but subjective and laden with social influences. The distributive perspective in leadership does not focus on actions of one individual but at the leadership influence and shared practices. The school principal's role is multifaceted, consisting of public relations, project management, human and financial resource management, leadership, Curriculum and supervision, monitoring and Evaluation, pastoral care and so on. It is unthinkable that such roles can effectively be achieved by a single person without some level of distribution, which is not synonymous with delegation. In distributed leadership the issue is not about the principal's actions, for example in school public relation but how she influences that domain.

#### **5. DISTRIBUTED LEADERSHIP AND THEORETICAL PERSPECTIVES**

Leadership entails influencing others' actions in achieving desirable ends and leaders are people who shape the goals, motivations and actions of others (Cuban, 1988). Distributed Leadership has been explained by Spillane & Diamond (2007) as founded on activity theory and distributed cognition. Activity theory is about how an activity system works (Bedny & Meister, 1997) and this is comparable to the complex leadership activity. The activity of landing a plane is given as a classic example. This

is where you have the pilots, the instrument panel and the people on the ground. The activity of landing the plane is not something an individual person does, nor done by an instrument panel without the people, or a pilot without the air traffic controller.

On the other hand distributed cognition focuses more on social interaction, the context and artifacts in an environment where people's thinking and actions don't happen in a vacuum but through social and environmental interaction (Vygotsky, 1978; Crain, 1992; Hutchins, 1995). Distributed cognition impact how leadership activity occurs and Distributed leadership is seen as borne out of these integrated theories which helps us understand the complexity of leadership activities in schools.

## **6. DISTRIBUTED LEADERSHIP AS HETERARCHY**

Even though overlaps can be noted in leadership approaches, Distributed leadership cannot be equated to democratic leadership which is depicted as embodying the notion of 'upside down' institutions (Sallis, 1996). Nor is Distributed leadership similar to situational leadership where leadership is influenced by situations. On the contrary, Distributed Leadership is about how leadership influences situations (Spillane, 2005).

Michels (1962: 191) argued that 'bureaucracy is the sworn enemy of individual liberty and of all bold initiatives in matters of internal policy.' He further observed that in a bureaucratic, hierarchical state such as in some schools, once the leadership is established at the top of the bureaucratic pyramid, its primary concern is the maintenance of its own power. Leaders wish to retain the privilege and status which their position brings, a concern which takes priority over the stated goals of the organisation--whereby preservation of the organisation becomes an end in itself rather than a means to an end. The bureaucratic, hierarchic systems are typically seen as petty, narrow, rigid and illiberal (Michels, 1962; Weber, 1996). Sometimes school authorities condone abuses by junior authority such as prefects as part of self-preservationist strategies (Tshabangu 2010), since the preservation of the organisation would have become an end in itself (Michels, 1962).

Distributed leadership like Transformational leadership offers a humanistic approach defined by an open and empowering culture where communication, strong values and mutual respect are the norm (Clegg, 2000). Every team or individual sees itself as important and acts as an integral part in achieving stated organizational goals based on values (Cloke and Goldsmith, 2002). In such a culture, teachers' and students' participation in decision-making is valued and promoted. It is seen as a right and not a privilege. Such a structure is defined as heterarchy, as opposed to traditional hierarchy in management (Cloke and Goldsmith, 2002). Heterarchy manifests itself where peers and different interest groups sharing power, are networked, and participate freely through self-management. For example, students may be allocated power to address and decide on issues pertaining to their halls of residence within agreed parameters and budgets.

The general trend has been that most of what happens within the schools is dictated by those higher up in the hierarchy, the 'hieros', which translates from Greek to mean the 'holy ones' (Cloke and Goldsmith, 2002: 83). Since in the religious frame then and now only a god is often seen as holy and unchallengeable, the hierarchical bureaucratic school is seen as founded on the notion of irrationality (Popper, 1945 cited in Bailey, 2000) and unquestioning deference as seen in some African classrooms (Harber, 1995).

## 7. METHODOLOGY

Following an Interpretive paradigm the study used Critical Discourse Analysis which is seen as aiding the attack against the power of global capitalism, bureaucracy and dominance over less powerful groupings (Fairclough, 2000). Discourse is often used to refer to patterns of meaning which organize various symbolic systems human beings inhabit (Parker, 1999), and which are necessary in making sense of their social world. Discourse analysis is therefore usually confined to speech and writing such as in transcribed interviews, and newspaper articles (Parker, 1999). Critical discourse analysis is largely founded on Marxist traditions in social theory that are interested in the relationship between language and ideology and ideas on political and economic dominance amongst groups in society (Travers, 2001). A review of school organizational cultures through students' poetry; 10 interviews on Namibian educators and 40 semi structured questionnaires on Zimbabwean and Tanzanian school principals were conducted and analysed through coding and development of themes in relation to schools' micro-politics.

## 8. ANALYTICAL DISCUSSION

### 8.1 School contexts

After studying British secondary schools, Hardy cited in Harber (1995) compared their organisational style to prisons in that the inmates' routine is disrupted every 40 minutes; they change their place of work and supervisors constantly, are forbidden to communicate with each other. Similar environments of a carceral nature (Foucault, 1977) can still be witnessed in some African schools as noted in the poem below.

#### *My school*

Another siren at 7: 45am [**Control**]

In straight rows according to our classes [**Control**]

It's now assembly; the choir gives us a hymn [**Controlled voice**]

Then the headmistress conducts the assembly [**Control – no distribution**]

It's another long day, being controlled by the siren. [**Control**]

The core business is to get education,

Subject after subject and exercises after tests, [**Control**]

Another subject, a test on the board, [**Control**]

The brain thinks till it bursts. [**Wearied by the school machine**]

Books are all over. [**Overwhelmed**]

That's my school.

-By a pupil

(Extract from Tshabangu, 2010)

The bureaucratic and mechanical system often operates through persuasion, coercion and sometimes force. Such may result in observable fear among those who rank lower in the hierarchy and often bear the brunt of the system's objectifying effects as exemplified in a student's poem below entitled '*They come in uniforms*'.

They come in uniforms [**Conformity**]

In little groups, [**Free outside school gate**]

Rushing through the gate like birds chased from a tree [**Fear**]

The bell rings and the [**Control**]

Classroom fills [**objectification**]

Tired students hang their heads like leaves on a hot day [Wearied by the school machine]

Some look through the windows, [**Yearn for freedom**]

At the short, brown grass and the playing birds, [**Birds as symbolising freedom outside**]

At last the lessons are over, [**Freedom**]

They all rush home like rats

Chased by a cat, with curved empty stomachs [**Objectification**]

- By a pupil

(Extract from Tshabangu, 2010)

Heavily centralized school structures turn to trap teachers and learners into an objectifying environment with no opportunity to contribute as to how educational processes should occur. Under a distributive leadership approach students and teachers are more likely to influence the cultural practices to the betterment of most learners in the school. Dahl (1989) once observed that most dictatorships, because of centralized power, invariably offer poor quality of life to their citizens as opposed to liberal nations. On Africa, Harber (1995) further commented that if dictatorship was instrumental for economic growth and quality lifestyles, Africa would be the richest continent, but unfortunately it is not.

Centuries ago, citizens were largely uneducated. Leaders often had a monopoly of information and thus Tolstoy (1894) records that leaders' often demanded or enforced obedience without question. In the 21st century where the media and technology has revolutionised education and modern democracy, such forms of leadership have become obsolete and a greater demand for shared and distributive leadership has taken root. It is now unthinkable that the role of a subordinate can only be limited to mere deference towards the leader.

## **8.2 Principals and the Distributive Leadership Challenge**

**8.2.1 Lack of skills and knowledge.** This was cited among most principals as a key factor negatively impacting on the inability to distribute leadership. It is noted that in many parts of Africa most principals, are initially appointed as trained teachers who then reach the position of the principal through teaching rather than leadership experience resulting in principals resorting to the "trial-and-error" strategy once appointed. For example, in 2000, the Tanzanian government introduced the primary education development plan (PEDP) and after 2004, the secondary education development plan (SEDP), where communities participated in building more schools in their local areas. A lot of schools mushroomed and so the need for head-teachers, resulting in the large number of poorly skilled heads of schools. Most leadership challenges were cited as a lack in school human resources management.

**8.2.2 Fear factor among school principals.** Even though in positions of power, principals have limited authority in the administration of schools due to weaker decentralization, as most Regional Education offices continue to wield immense power which may dwarf a principal's ability to exercise leadership distribution. In most Southern African leadership traditions "a king is a king because of his people" (Tyrell & Jurgens 1983). This is not necessarily the case with most principal as they are more beholden to the appointing authority such as the regional offices and thus less responsive to school community needs. Teachers and students only become informed because the government would have insisted on the heads to involve stakeholders.

**8.2.3 Poor Listening skills.** Once appointed, most head-teachers tended to isolate themselves and listened less to subordinates as they felt that others' ideas

could be destructive of their leadership and they may be seen as weak leaders.

- 8.2.4 **Lack of talent acknowledgement.** It was noted that there were very few teachers or students who had initiated or were involved in exceptional educational projects. Those few were often not acknowledged by the leadership. Because of lack of recognition most of the students' and teacher's leadership potential fizzles out to the detriment of developing communities.
- 8.2.5 **Functionalism.** Most principals in Zimbabwe and Tanzania stated that teachers find that they have to focus on the school syllabus above all else. Because of the urge to succeed in examinations, some head teachers observed that both students and teachers tended to 'lived under commands' and that the school system was largely examination centered. These functionalist views presented the school contexts as illiberal and thus possibly unable to exercise leadership distribution, which may involve risk and experimentation.
- 8.2.6 **Rigid authority.** Many School principals tended to shy away from teaching responsibilities citing their principal/ headship role. Such a trend may presuppose that principals are less likely to promote a culture of leadership distribution as they see teachers and students as encroaching into their sphere. From this perspective, leadership becomes only associated with the school principal.
- 8.2.7 **Delegation and distribution.** A brief study in the Caprivi Region of Namibia concluded that most principals tended to practice delegation rather than distribution, noting that principals were often in the forefront in most aspects of school administration. This may have led to few learners and teachers who could be identified as having done 'heroic' leadership deeds in education. Only one teacher was recorded as having won awards in Mathematics on several occasions having gone outside the call of duty to do extra free teaching on holidays and weekends thus ensuring an excellent Mathematics pass rate for his school in the region.
- 8.2.8 **Lack of trust.** It is noted that distributive leadership also entails creating a culture of trust. For most principals, wary of their career prospects and accountability issues, distribution may pose a challenge. The traditional approaches of leadership such as democratic and authoritarian seemed to sit well as most principals would have some idea on how to dispense with these to the principal's advantage, but viewed the distributive approach as probably highly fluid for a hierarchical educational environment laden with targets and 'threats'. In the exception of Learner Representative Councils, which are required by some Education Acts as in Namibia, most schools continued to provide no leadership development spaces for both teachers and learners.

## 9. HISTORICAL GLIMPSES OF DISTRIBUTIVE LEADERSHIP IN AFRICA

Even though distributive leadership may seem like a new approach some would argue that it is like old wine in new skins. Pupils of Morris Isaacson high school in Soweto once led an uprising against apartheid education in 1976, shocking their teachers by loudly singing "Nkosi Sikelel' iAfrika" (God Bless Africa), an African hymn that is now the South African national anthem. It is recorded that in those days, Morris Isaacson was a hotbed not only of radicalism but of academic excellence



(Economist, 1999). It is further stated that the school produced revolutionaries, doctors and South Africa's only black nuclear physicist. By 1999 the school had become a shadow of its former self. Three-quarters of Morris Isaacson students failed to graduate and only 2% made it to university (Economist, 1999). The problem was cited as not the lack of money but of leadership and a cultural break from the past. When visiting the school in 2004, the former vice-principal was recorded as saying "Morris Isaacson was a school that looked at improving the lot of every child in the school" (Joburg news, 2004). The "lot of every child" signify a distributive leadership approach that valued and nurtured individual potential to make own decisions.

In Namibia it is recorded that the private schools established during the colonial regime were called "Swapo" schools although they were private. "There was a big student and teacher uprising in 1976 in Gibeon against the Bantu Education System. Despite financial setbacks and the resultant dearth of textbooks, exercise books, stationary and lack of salaries for the staff, the school excelled (Mietzner, 2012). It is noted that in both accounts the school leadership, despite political risks, created a culture where teachers' and students' leadership potential to independently influence situations was valued and practiced with positive outcomes academically and in attaining social justice. There is an African proverb, which says 'freedom and responsibility are two sides of the same coin.' What this means is that if a less free and highly structured and centralized authority exists even within a school, the environment is likely to inhibit creativity, lessen democratic values, demotivate teachers and learners and resultantly produce irresponsible citizens with poor skills and knowledge thus disadvantaging the inhabitants of that polity.

## **10. CONTEMPORARY TRENDS**

There is now an ever growing realisation that Leadership and influence should not necessarily reside only in the head-teacher. Without delegated authority, a teacher in South Africa went beyond the duties of the classroom to develop an 'Alternatives to Violence' programme to assist the youth at his Secondary School in dealing with violence in the classroom. He partnered with a pastor from the area (another distributive feature) to develop workshops called 'Alternatives to Violence', to mentor the boys and provide them with the life skills and self-esteem to help prevent gangsterism and violence. He was recorded as saying "These young men are natural leaders. The difference is that before they were leading in gangs and now they lead in a good way," (ED.ORG, 2008).

### **10.1 Ikamva Youth Programme for Schools by University Students, South Africa**

It is recorded that most of the township high-school learners who join the programme, jump at least 2 or 3 symbols to access quality post-school opportunities when they matriculate. For the past 5 years, IkamvaYouth has achieved a matric pass-rate of between 85-100% and over 70% of IkamvaYouth learners have gained access to tertiary education (Ikamvayouth.org, 2012). A key feature of IkamvaYouth's achievements is a commitment to inclusive, value-based, but fluid and distributive decision-making processes where young independent university students take a lead (Ikamvayouth.org, 2012). Such leadership practices are marked by a shift from waiting for hierarchically rigid structures to provide solutions, to creating a fluid team based leadership environment that values and nurtures individual potential and contribution.

### **10.2 Hero Awards (Pick and Pay School Club)**

Pick n Pay School Club of South Africa state that "there's a hero inside every one

of us; within the school community, from the administration personnel, to the teachers and learners”. Such assertions on leadership coupled with investments that promote distributive leadership attest to emergent notions that school leadership is complex and excellence may only be achieved through a distributive approach. As a result the Pick n Pay School Club has identified five categories to assist schools in selecting their heroes. The five categories are as follows: Leadership, Community upliftment, Sport, Overcoming hardship, Academic excellence (Pick n Pay School Club, 2012).

### **10.3 The Education and Expedition Agency, Tanzania**

This agency has initiated official recognition of teachers as a fundamental foundation for quality education in Tanzania. This forms another feature which seeks to encourage teachers by recognizing personal initiatives in their field, thus benefit the wider community.

Previously, teacher innovations, especially in science were identified and innovators awarded nationally by science and technology committee. One primary school teacher in Morogoro region was recognized for pencil innovation using raw materials from a pigeon pea plant.

## **11. AN INTERNATIONAL TRENDS**

In an effort to distribute school leadership to include particularly students, school ambassador programs now feature in several parts of the world. In the United Kingdom’ primary schools for example, a few children are elected by other children in the school to be ambassadors. The main duties a school ambassador does include informing other children in their school about the Children’s Commissioner; about children’s rights and the United Nations Convention on the Rights of the Child and working with the school council, to find out what children in the school think could be improved (Childcom, 2012). In several school teachers working in teams or individually have taken up leadership on curricular issues with ability to make decisions, which was previously a preserve for the head-teacher (Harris, 2008).

### **11.1 A distributive model for schools**

Distributed Leadership allows for everyone to be responsible and accountable within their remit as staff and students cooperate in creating change within an environment where everyone’s ideas are valued and leadership capacities strengthened. Below is a distributive leadership model adapted from West Chester University community. This model is not prescriptive as each school context is unique, but provides a framework to engender distributive leadership attitudes. The distributive leadership culture in an organisation may therefore entail the following;

- 
- Does not mean delegating. Instead, it means finding the best path by tapping the expertise, ideas, and effort of everyone involved
- Brings success in handling problems, threats, and change
- It not only encourages idea sharing, it demands it.
- Can look for better ways and test them through controlled, reasoned risk taking
- Environment, mistakes often lead to discovering valuable new approaches.
- Not everyone is a decision-maker, but everyone is an expert who contributes to the decision-making process.
- Not for mavericks and lone eagles
- Cooperation and trust, not competition among units
- Share the same mission, even though we contribute to it in different ways

- Empowers everyone to make his or her job more efficient, meaningful, and effective
- Everybody matters

## 12. CONCLUSION

This study has explored the conflictual nature of educational policy and school practices, particularly in seeking to attain educational and economic goals in Africa. Distributed leadership has been posited as a leadership tool and attitude that may usher in a new organizational culture which helps broaden the sphere of leadership within schools such that creativity and democratic values are allowed to flourish resulting in improved micro and macro-political outcomes in the knowledge economy of a nation. Maybe the bureaucratic and hierarchically hegemonic cultures have given the education system some ‘good’ schools in the past. But the demands of future schooling indicates that the future generations may not be satisfied by just –‘good’ schools. Technological advancement in all spheres of life and the awakening of those whose rights have been downtrodden, will necessitate fatigue and tiredness of so called ‘good’ schools. There is an emergent need and expectation of ‘exceptional’ schools and these may only come under forms of Distributive Leadership where the school ethos and values are geared towards developing every individual’s leadership potential.

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# Education IV

08:45-10:15, December 16, 2012(Room 1)

**Session Chair:** *Prof. Ranbir Singh Malik*

**215: The Importance of Elementary School Counselor in Indonesia**

*Dian Permatasari*

*Brawijaya University*

**219: Cloud Computing in the Field of Technical Education in India**

*Dipankar Mishra*

*Pusa Polytechnic*

**537: Revisiting the Occupational Aspirations and Destinations of  
Anglo-Australian and Chinese-Australian High School Students**

*Ranbir Singh Malik*

*Universitas Pendidikan Indonesia*

**248: Out of the Box! Cross-Cultural Understanding as Part of English Language  
Learning in the Globalization Context**

*Wigati Dyah Prasasti*

*State University of Malang*

*I Wayan Suyadnya*

*Georg-August University Goettingen*

**528: A Framework for an Effective Tutor System in an ODL Institution in South  
Africa**

*Sello Mokoena*

*University of South Africa*

**244: Detecting of Differential Functioning of Items and Tests Based on Test for  
Admission to First Year of Highschool on Bayesian Procedure in Science  
and Mathematics Tests**

*Aweeporn Panthong*

*Burapha University*

*Katum Saraburin*

*Burapha University*

*Pairatana Wongnam*

*Burapha University*

## THE IMPORTANCE OF ELEMENTARY SCHOOL COUNSELOR in INDONESIA

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### **ABSTRACT**

Elementary school is a foundation in a children educational sector which is expected to help the students to develop themselves in an intellectual, moral, and psychological dimension. Unfortunately, many elementary schools in Indonesia nowadays are more concern about cognitive aspect, meanwhile another aspect, such as psychological aspect pay less attention. It can be seen from the absence of a school counselor in an elementary school. Some researches showed that the existence of school counselor is really important since it have a positive influence on elementary student's achievement. It is also stated in government official that the purpose of guidance and counseling is to help students to recognize about themselves and able to make a plan about their future. Therefore, the existence of guidance and counseling is very necessary not only in high school but also in elementary. In elementary, the role of a school counselor is usually deal by a classroom teacher, whereas classroom teachers are very busy since they have to teach their students and also involved with administration problems. As a consequences the classroom teachers may not be able to give a guidance and counseling services to their students. In addition, the classroom teacher did not have a competent background in guidance and counseling field. Therefore it is necessary to have a discussion about the importance of the school counselor's role especially in an elementary school i.e. the responsibility in helping and guiding their students to develop their students personal, social, learning activity and also moral. This article contains the important role of a school counselor which is able to maximize the elementary school students not only in cognitive aspect but also moral and psychologist. Beside, it is necessary to discuss it further concerning with the attitude of the government and the school officers in order to accelerate the guidance and counselor service in elementary school.

Keyword: *elementary students, school counselor, guidance and counseling.*

### **1. INTRODUCTION**

Comparing with a junior high and university level, an elementary school is a basic foundation in children educational sector. The strategic objective of an elementary school as an institution in a basic level is to the children among age 6 – 12 years old. An elementary school helps children to develop themselves in intellectual, moral and psychological dimension. The elementary level education should pay attention the development of every individual although this activity is conducted in a group. However, if we talk about education in Indonesia, the main focus is about the students' cognitive ability. Unfortunately there is not or even rarely a discussion about the importance role of guidance and counseling in school, especially in an elementary level.

Guidance and counseling as one of service which is facilitated by school to take care of the students is cannot be separated from an educational program which held in school. In government official no. 28 years 1990 section 25 verse 1 is explained that the purpose of in school is to implement guidance and counseling program. As stated in elementary school into high school curriculum, guidance and counseling main program is give a guidance and counseling service, support program whether to implement the guidance service and also supporting program which is another activity that able to support the main activity (Bisri, 2011). In other word, guidance and counseling position is a part of integral (cannot be separated) from the whole educational program.

The role of guidance and counseling is as an effort of service strategy to optimally develop students' potential. Therefore guidance and counseling service should connect with the development of human resource in order to be able to answer the challenge in future life. It means that the guidance and counseling service should help the students to identify their talent, interest and ability easily, to choose and make decision about something and also to adapt themselves with opportunity in education and also career related with their life demand. Therefore, strategic and effort of guidance and counseling should be adjusted with the purpose and function of educational process, characteristic and need of students development also the environment condition either school or society where the students' live.

Guidance and counseling service is destined to every individual with all aspects of their life whether it is personal, social, or career. It means that guidance and counseling is not only destined for individual who have problem (in therapy) but also guidance and counseling is more orientated to educate, develop, prevent and adjust students (Suherman: 2010).

## **2. GUIDANCE AND COUNSELING IN AN ELEMENTARY LEVEL**

The age of an elementary school student started at the age of 6-7 until 11-12 years old. In this period, an elementary student faces with a series of developmental task. Havigurst (Hurlock, 1990) stated that the final development assignment of children are learning a physical ability which is need when playing general games, developing a good attitude about themselves, learning to adapt with their colleagues, developing their basic skill to read, write, and count, developing their conscience, moral, school grade, and also develop their attitude toward social group. The success of student in implementing their development assignment when they were a child will allow them to obtain happiness in their life and facilitate them to do their development assignments when they are teenager and adult.

Children at the age of elementary level are in developmental phase, not only their intellectual development, but also emotional, physical and also moral as well. With that kind of characteristic, school should be able to prepare a good plan and learning experience, deliver anything which exists in students' environment every day so that the learning material is not abstract and to be more useful to the children. The students also should be given an opportunity to become pro active and obtain a direct experience whether individually or in a group of students.

Unfortunately, educational system nowadays generally more focus on the development of students' cognitive/intellectual aspects, so that when the students were in school, they were pushed to obtain high mark. An example of that situation is



the government policy about UASBN or national school standard final test. This policy gives high psychological burden to every faction, whether from the school, students and their parents since the 6 years learning in school is determined with three days of UASBN. A lot of pressure and fear to the students as if they do not pass has potential to make children become stress. The elementary students' problem is not only about that, many of them have difficulties in adapting themselves, in learning, and also in obtaining help to solve their problems. Today's generation are facing cultural diversity in our society as well as new technologies and expanding opportunities. This condition will raise the problem of the elementary students into more complexes. In some news it is stated that there are many cases which involve elementary students, i.e. a six grader who stab his classmate ([www.republika.co.id](http://www.republika.co.id)) and also brawl case among elementary students in Palu which is caused by trivial problem ([news.okezone.com](http://news.okezone.com)). In fact, the worst is there are some students who have done a free sex with their girlfriend ([www.suaramerdeka.com](http://www.suaramerdeka.com))

All of the problems mentions before are impossible to be handled by their teacher alone. Therefore here the role of school counselor is necessary. School counselor are organizing guidance and counseling activities in school. Regulation of the Minister of National Education in 2005 no.22 states that school counselor are the organizer of counseling services in school ([konselingindonesia.com](http://konselingindonesia.com)). Elementary school counseling should be designed to serve the needs of all children at each stage of their development. As a result of social pressure and changes children brings many issues and concerns to school with them. A troubled child may experience difficulties in learning. By providing counseling at the elementary level promotes developmental and preventive measures which help the children to have success in school. Children are encouraged to make choices and decision that will lead to effective functioning as students. With the help of a program, the counselor can assist children in strengthening their skills to become better learners as well contributing members of the school. They will also help the children with challenging personal issues and crisis that interrupt the learning and social development through individual or small group sessions and coordination of services.

Every role of guidance and counseling which mentioned before unfortunately was not happens in reality. In fact, the counselor's performance in school is still far away from many people expectation. The result of research which is done by Furqon (Taufik 2010) stated that more than 58% of counselor sample who rated independently shows a low professional performance. Besides the role of guidance and counseling in elementary school was not implemented by a school counselor just like in junior high or high school, in elementary school the role of school counselor is implemented by classroom teacher. Though in reality, especially in elementary school it show that the role of teacher was not done optimally for several reasons. Based on the interview with some of the elementary teacher, there are several things that become problems to a classroom teacher when conducting guidance and counseling program: a. a lot of classroom teachers' assignments and responsibility which become a burden therefore the duty to give a guidance and counseling service to the students bring less positive value to the students achievement; b. beside teaching, elementary school teacher also burdened by administration assignment that should be done so that the duty in giving the service of guidance and counseling can't be done optimally; c. teacher educational background, where generally classroom teacher has educational background study and they did not have/obtain educational background about guidance and counseling.

### 3. SCHOOL COUNSELOR ROLE EXPECTATION IN ELEMENTARY SCHOOLS

#### 3.1. Elementary School Counselor Role

Several researches about guidance and counseling in elementary schools in Indonesia shown that this program have positive influence toward students' academic achievement (Sink & Stroh, 2003; Cook & Kaffenberger, 2003; Lee, 1993). Researcher also found that elementary and middle school students' who participated in a structured group counseling program led by a school counselor aimed at improving academic, school, and social competence (e.g., social skills, self management) improved their math scores on a state standardized test (Webb, Brigman, & Campbell, 2005).

Considering the importance role of guidance and counseling in elementary schools, it is necessary as a school counselor in elementary level to be given ability to show the professional service and also the school counselor is prepared to be able to deal with students' developmental phases. Guidance and counseling comprehensive program is designed in four fields of work they are basic service, individual service, responsive service and support system. Beside that, the implementation of guidance and counseling service in school is more focus on the effort to implement the implantation counseling potential which cover personal, social, learning, and career aspect. The purpose of the guidance and counseling implementation program in school is to facilitate students to achieve positive changes which lead them to independence life (Setiyowati. 2011)

School counselors' task in elementary school such as:

- a. Implement the elementary guidance curriculum
- b. Guide individuals and groups of students through the development of educational, personal, social, and career plans
- c. Counsel individuals and small groups of children toward social and emotional growth
- d. Consult with and train teachers, parents and staff regarding children's needs
- e. Refer children with problem and their parents to special programs, specialist and outside agencies
- f. Participate in, coordinate and conduct activities that contribute to the effective operation of the counseling program and school
- g. Participate in and facilitate the intervention team process
- h. Plan and evaluate the counseling program
- i. Pursue continuous professional growth
- j. Focus on helping students develop skills they need to be successful in their social and academic lives, such as decision-making and study skills
- k. Help teachers and administrators identify possible behavioral or developmental problems. They observe children in the classroom and at play activities and confer with teachers and parents about children's strengths, problems, and special needs.

Basically the guidance and counseling in elementary school is initiated to every student, whether it's preventive, quantitative or developmental. This principle is raised based on assumption that every individual basically have problem, the difference is just lay in big or small or heavy and light. But, the priority is given toward the students who show the symptom of maladaptive behavior whether in learning activity, social relationship, or adapt themselves generally with the school demand. The problem is most of the students who experienced a problem not always

to be able to say that they have a problem. Therefore, school counselors do not work alone, they need to cooperate with classroom teachers to be more sensitive toward every elementary student's problem.

In its implementation, a school counselor would not work optimally without any support, participation, collaboration and information from other sides such as teachers, administration personnel, parents and headmaster. Classroom teachers become one of the main parties, considering classroom teachers are the most people who interact with their students in class so that they tend to be closer and know their students' attitude. Collaboration between classroom teachers and school counselors when held a program of self-developmental is a measurement in order to make sure that the program runs effectively and efficiently. School counselors should work with teachers and administrators to be sure the curriculum addresses the development needs of students as well as students' academic needs. Collaboration is cooperation on the basis of the understanding of equal position between any sides that cooperates and also share activities based on each portion and fill each other. Each side has typical and equal in order to achieve the purpose of self-developmental program. Related with collaborative activity in self-developmental program, principally collaboration between teachers should be based on students' objective condition (talent, enthusiasm, necessity and students' characteristics and also school situation and condition). Classroom teachers and school counselors should have same understanding and attitude about every aspect of self-developmental program (Triyono, 2010).

### **3.2. The Role of Policy Makers to the existence of school counselor in Elementary Schools**

Seeing a wide variety of guidance and services that can be performed by the school counselor, if it can be implemented optimally in school, then it is undoubtedly that the school counselor has a huge role in the learning process. As I stated earlier, functions of a school counselor would not be optimal without the collaboration of the various parties. One of the parties is also important is the school system. Schools need to put the role of the school counselor as optimal as possible, not just assigned a school counselor at a troubled/naughty students. The support system is a component management services and activities that are not directly provide assistance to students or facilitate the smooth development of the students. This program provides support to school counselors in order to facilitate the implementation of the program of guidance and counseling in schools.

Given the importance of the school counselor, the existence of appropriate teacher should have started at the elementary school level, because even at that level they should be doing guidance and counseling so that the development of students to be optimal. Related to this, the role of government as one of the policy maker should also take a part. The government should consider the important role of guidance and counseling since elementary. It is time for elementary students get extra attention, one of which is to put a professional school counselor, who does have a science background accordingly.

It is necessary that elementary school is the reflection of young generation ruler the nation, the beginning of every children achievement. If an elementary school is good then the effect not only goes to the children but also to the nation who have a good young generation.

#### 4. CONCLUSION

The existence of guidance and counseling is an integral part of teaching and learning in schools. School counselors are needed to help students develop themselves, not only in the cognitive, but also emotional, physical and moral aspect. They help the students to evaluate their abilities, interests, talents and personalities to develop realistic academic career goals. Elementary school counselors observe children during class and also during activities. They discuss the issues of students with their teachers and parents to evaluate their strengths, problems and special needs. They not only consult with parents and teachers but also with school administrators to develop and implement strategies to help students succeed in life.

Unfortunately, the importance role of the school counselor is still underestimated by many parties. Therefore, there is need for further attention from the schools and the government to optimize the role of school counselor, so the need for elementary school students can be met in an optimal.

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## Cloud Computing in the field of Technical Education in India

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### **ABSTRACT**

Technical education in India is in a league of its own. The students of the premier technical institutes of India, like the IIT's, are in great demand all over the world for their technical capabilities. These institutes, along with other core institutes like the NIT's, have been the backbone of technical education in India. The backbones of these institutes are the faculties, who are extremely talented and qualified. They are also dedicated and have the requisite infrastructure to back them. But the same cannot be said of other technical institutes that have mushroomed all over the country. Consequently there is a huge gap in the capabilities of the students who pass out from the premier institutes and others. Cloud computing has been a buzz word in the IT sector. This paper attempts to look at the effects of cloud computing in the field of technical education with respect to India.

Keywords : Cloud computing, technical education, effects of cloud computing, higher education, Indian education.

### **1. INTRODUCTION**

Technical education in India is in shambles. While the numbers of institutes have increased drastically, the quality of education has seen a steady decline. The top notch institutes like the IIT's and NIT's , with their stringent quality checks , have still retained the standards they are known for. The entry of students is filtered through high standard of common entrance examination, either a single tier or a multi tier examination. This has resulted in a high level of competence of the students.

As these students entered the industrial domain, they set India on a glorious path with their performance in their respective field. The world became their stage and there was high demand for the students from India. As the number of technical institutes was very less and mostly government funded, completion was very high. With the economy of India riding the fast track, the government was spending more and more of its funds in sectors which were driving the economy. And education was not in the list.

Consequently, the government with an aim to reduce the demand supply ratio opened up the education sector to private players. Although the aim of the government was rightly focused, mayhem followed the opening of the education sector to the private players. Number of technical educations mushroomed in the country. Manipulating the norms required for the setting up of such institutes, they became business centers instead of education centers. Untrained and inexperienced faculty was recruited with a pay package less than the government package. Infrastructure was either very little or not there at all. Branches of engineering which required very less investment or space were offered in almost all the private institutes. Sharing of resources was done to lower the investment cost.

This began to reflect in the placements of the students. Suddenly there was a deluge of degree toting students in the market with either no knowledge of the subject or with half baked knowledge. Unemployment in the technical education sector grew to alarming proportions.

## **2. PRESENT SCENARIO of TECHNICAL EDUCATION in INDIA**

At present there are roughly 3400 engineering colleges with an estimated 15,000,00 seats<sup>[1]</sup>. These institutes are spread throughout India with the South garnering the majority of the engineering colleges than the other parts of India. Most of these institutes offer courses in Information technology, Computer Science and Engineering, Telecommunications but very few offer the conventional engineering courses like Civil Engineering.

Most of these private engineering colleges were setup in the rural heartland. The main reason for this was the cheap availability of land as compared to the urban locations. With the land requirement fulfilled, the rural heartland also provided cheap accommodation facilities for the staff also. Some of these institutes were setup close to the industrial belt in that region. This, to a certain extent, determined the courses that were provided in the institute. Even then IT related courses were available in all the institutes, thanks mainly to the IT boom and the hype created around the IT industry with pay packages offered.

As the standard of education deteriorated, the placement of the students decreased and soon came to a grinding halt. This was more pronounced in the IT sector while other sectors which required the students from conventional branches of engineering were a little better placed. Consequently, the admissions to these courses and institutes reduced a great deal. Applications from the institutes reached the All India Council of Technical Education(AICTE), the body formed for setting up of technical institutes, to shut down courses and in many cases the institute itself. Data from the AICTE<sup>[2]</sup> shows that more than 200 colleges submitted application for closure of the institutes and in some cases closure of certain courses. Various reasons were submitted for the closure, starting from lack of student admission to lack of placements in the same field.

AICTE permitted closure of 143<sup>[2]</sup> institutes all over the country. Majority of these institutes were from the southern parts of the country, while the rest were evenly distributed over the rest of the country. Looking at the problem from a holistic point of view, AICTE has stopped the registration of engineering institutes till the academic year 2013-14<sup>[3]</sup>. This will provide the presently struggling engineering institutes to have some breathing space and attend to the problems faced by them.

## **3. CLOUD COMPUTING**

Cloud computing is a buzz word in the IT sector. The IT people swear by the cloud. Vendors of IT solutions wash and paint their solution with “cloud technologies”. It seems that “cloud” has become a panacea for all problems. What exactly is this cloud computing?

Larry Ellison , CEO, ORACLE, famously said in September 2008<sup>[4]</sup> , *“The interesting thing about cloud computing is that we’ve redefined cloud computing to include everything that we already do. I can’t think of anything that isn’t cloud computing with all of these announcements. The computer industry is the only*

*industry that is more fashion-driven than women's fashion. Maybe I'm an idiot, but I have no idea what anyone is talking about. What is it? It's complete gibberish. It's insane. When is this idiocy going to stop?*

According to NIST (National Institute of Standards and Technology), US Department of Commerce, *Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (eg networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. This cloud model promotes availability and is composed of five essential characteristics, three service models, and four deployment models.*

Cloud computing in simple terms refers to the sharing of computer resources like networks, hardware, software and services over the Internet as a medium. This provided the end user 3 different forms of resource sharing

1. Software as a Service (SaaS)
2. Platform as a Service (PaaS)
3. Infrastructure as a Service (IaaS)

In SaaS , clients are able to access virtual PC's over the Internet, preloaded with the software of their choice. This software maybe accounting software, database software or and engineering application like AutoCAD, MATLAB. The software's are delivered to the client through web services. Consequently the client is spared the cost of purchase of these software's and up gradation as an when it takes place.

In PaaS, the software platform required for any development is made available over the Internet to the clients. Right from the required operating system to the application software or the development software base, are made available to the client over the Internet. The client is spared the cost of having the entire range of products for his work at his end and may be in multiple PC's.

In IaaS , the entire IT infrastructure, including the network connection from the client end, to the hardware and software at the service provider end is made available to the client in a customized manner. This enables the client to shift his priorities from setting up the infrastructure at his end, to utilizing the infrastructure available at the service provider end.

#### **4. CLOUD COMPUTING in TECHNICAL EDUCATION in INDIA**

Microsoft, has argued for the implementation of cloud computing in education<sup>[5]</sup>. Stressing for a future ready classroom, it has all the three models of cloud computing to push its case. The white paper takes the IT backbone of education into cloud for enabling services like private email services of the school or institution. The cloud model proposed by Microsoft is based on server either hosted on premises or on cloud.

Another IT giant CISCO has also argued in favour of implementing cloud technology in education<sup>[6]</sup>. It has introduced a new model concept along with the above mentioned concepts, the concept of hybrid cloud. A combination of a public cloud and a private cloud.

In all the above models, the base or the foundation consists of IT hardware. Such a condition is fine for courses in IT or Computer Science and Engineering. But other



branches of engineering like Electrical Engineering, Civil Engineering, Mechanical Engineering, Electronics Engineering require the use of equipments and machinery which are much different from IT hardware. They have no virtualization and can be accessed manually. They have to be used by the student physically, the results obtained physically and manually. Some sort of automation can definitely creep in, but the major operation has to be physically.

One cannot learn the process of concrete casting by high end servers. Sure, one can place a video of concrete casting on a private or public cloud and have the student visualize the process. But the student has to physically perform the process, in order to learn the techniques. The right amount of mix of cement, sand and water comes from practice of doing it physically. Similarly the use of a lathe machine for shaping, can only be achieved by manually doing it on the machine itself. The chipping of the nails during concrete casting or the peeling of the skin during lathe operations can never be felt in virtualization nor can the same be replicated in cloud computing.

Soldering of electronic components, an essential tool for repair of even sophisticated equipments is purely a hands on technique. One learns the process by doing it on a real life situation, the case of dry soldering, component burnout can never be achieved in cloud computing technology. None of the models of cloud computing are capable of providing it.

India has a history of innovations. Indians are great masters of conjuring up solutions where conventional wisdom fails. This nature of Indians has been brought around by the fact that there is generally an acute shortage of essential learning tools, excepting in the top tiers technical institutes like the IIT's and NIT's. Consequently one learns to work around situations without sacrificing the properties of the equipment of device in which it was meant to perform or operate. This does not come from any virtual world but comes from hours and hours of toiling manually on the machines and tools. Cloud computing requires a robust network technology, a robust power supply for operation. The same is not easily available in India, although India is counted as one of the power houses of IT.

## 5. CONCLUSION

Cloud computing can be and will be highly effective IT tool. But the present reach and approach of the various models are good enough for the normal school education or for IT education. Even the basic requirement for using cloud computing technologies is a good network connection along with good power backup. Premier institutes can afford to have such a setup, but the same cannot be said of other institutes where funds are a source of worry. Further the institutes in the metropolitan cities can have the power supply need for the setup, but the same will be lacking for institutes setup in the rural heartland.

The effect of cloud computing can definitely play a major factor in the IT education sector. It can help the upcoming institutes overcome their faculty and resource shortage at an extremely low cost to the institute. It can help the students of such institutes to measure up their abilities with the best in the world by using the cutting edge software and IT infrastructure. Students can leverage their theoretical studies with industry dominated software practice through cloud computing.

But the same cannot be said of other engineering branches. Cloud computing can impact these branches in a limited form. It can be used to increase the knowledge of the students in those areas where software can be used. For example, mechanical

engineering students can benefit for the use of the latest version of AutoCAD software while electronics and communication engineering students can use the latest version of MATLAB or LABVIEW software without the institute burning a hole in its money purse.

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## **Revisiting the occupational aspirations and Destinations of Anglo-Australian and Chinese-Australian high school students**

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### **ABSTRACT**

Evidence from Australia (Bullivant, 1987, Chan, 1988, Malik, 2000, 2010) lends support to the ‘Asian high achieving syndrome’ in Chinese-Australian students and ‘self-deprivation syndrome’ in Anglo-Australian students. Applying ethnographic case studies approach for doctoral thesis the author collected data on a longitudinal basis from homes and school of these students. All of these students attended the same school located in predominantly middle class suburb of Perth metropolitan area in Western Australia. Chinese-Australian families had settled in Perth from Malaysia, Singapore and Hong Kong, whereas Anglo-Australian families had been residing in Perth for three generations.

Impetus to revisit these students (now young adults with their own families) 10 years later came from an urge to test the validity of the prediction the author had made in the concluding chapter of his doctoral thesis. The author had claimed that ‘if Anglo-Australian parents keep on dwelling in the era of 1950s and 1960s and do not change their laid-back attitude about education, their children could eventually be under-privileged in their own country’ (Malik, 2000, 2004). Ten years later, the author undertook a follow-up study on these young adults from six of the eight original families in order to find out their occupational destinations and future aspirations. Data for the follow-up study were collected from these young adults and their parents. These research cases were interviewed twice, each time approximately for two hours and their parents were interviewed once for two to three hours. The purpose of this paper is to report the findings of the follow-up study which reveals a remarkable relationship between the attitude towards schooling and academic performance with their subsequent occupational destination.

**Keywords:**Accommodation without assimilation, Confucian heritage cultures, Self-deprivation syndrome, shirk-work ethic, Asian high achieving syndrome, resistance theory, counter-school culture, discontinuity hypothesis.

### **1 INTRODUCTION**

Cross-cultural studies conducted in the United Kingdom (Gibson, 1988), the Netherlands (Pieke, 1991), the United States (Flynn, 1991; Lee, 1960; Lynn, 1982; Schneider et al., 1994; Stevenson and Stigler, 1991) and Australia (Bullivant, 1987; Chan, 1988; Malik, 1988, 2000) have reported consistent evidence about an impressive performance of children from Southeast Asia. Of particular interest is the outstanding performance of children from what Ho (1994) calls ‘Confucian heritage cultures (Japan, China and Korea). In the United States the policy makers have referred to the Asian-Americans as ‘model minority’ (Wong, 1980) or ‘quiet Americans’ (Flynn, 1991) and their children as ‘whiz kids’ (Brand, 1987). They achieve far beyond what their mean IQ would lead us to expect (Flynn, 1991, p. 5). This happens in spite of facing obstacle like racism, home-school cultural differences and language-related problems.

As this sociological puzzle has captured the imagination of social scientists, a number of explanations have been offered. Lynn (1982) attributes the superior performance of Southeast Asian children to their innate ability. Stevenson and Stigler (1991, p. 50), on the other hand, regard such assertion 'without merit'. In an influential study (Flynn, 1991) found no conclusive evidence in favour of the claim for cognitive superiority of Japanese and Chinese. Hence, 'genetic superiority hypothesis' is discredited (Flynn, 1991; Sue and Okazaki, 1990; Okazaki, 1995). Instead, the superior performance of children from the Confucian heritage cultures is attributed to their everyday experiences at home and school. Osajima (1988) attributes Asian success to sheer effort. In dedicating themselves to assisting their children to negotiate the challenge of formal schooling Chinese parents share the burden of failure as well as the uplift of success with their children. The assistance of parents paves the way to channel effort on subsequent tasks, provides the instrumental and moral guidance to ensure that children's efforts culminate in success rather than aimless floundering. Confucian thinking has traditionally emphasized literati as prerequisite for high status jobs.

Impressive performance of Southeast children in the Western World is also attributed to the policy of selective immigration. Most immigrants migrate voluntarily in search for greener pastures and possess professional degrees. Before emigration many were in professional jobs and had high educational expectations for their children. With urban locations, modest social class advantages and Confucian values they tend to be better positioned to take advantage of available opportunities. At school, children from such families meet their teachers' expectations because they display middle class Western values of the mainstream society when it comes to learning. With such values they find it easier to fit the protestant work ethic which values an ambition to work hard and excel in studies. Initially, such immigrants tend to accept the dominant group's folk theory which purports that one gets a good job that pays well by getting good education. They believe that they can get ahead through hard work, school success and individual ability and effort. They perceive the opportunity structure in the host country in sharp contrast to the opportunity 'back home' in their country of origin. Their cultural frame of reference permits them to cross cultural and linguistic barriers (Gibson, 1988; Ogbu, 1994). They practice alternative model (Ogbu, 1984) or accommodation without assimilation (Gibson, 1983). Parents of these children overcome the initial problems for instrumental expectations which motivated them to emigrate and their trusting accommodative relationship with public schools. In Australia, Chinese-Australian families adopt strategies for social mobility through schooling and social adjustment. They encourage and guide their children to develop good academic work habits and perseverance. Parents themselves are willing to work hard at low paying jobs and endure prejudice but see future rewards from investment on education of their children. This migrant drive (Smolicz and Wiseman, 1971, p.8) plays a key role in the migrant families.

In Australia, Paar and Mok (1995) reported that children born of Asian families residing in Australia were more likely to gain a university place than Anglo-Australians. This assertion finds support in a longitudinal ethnographic study of Anglo-Australian and Chinese-Australian high school students undertaken by Malik (2000) in doctoral thesis. A principal of a public school in Perth captured the essence of what has been discussed above:

Asians will be running this country in thirty years....Most of them select TEE (Tertiary Entrance Examination) subjects and consider TAFE (Technical and Further Education) subjects as a stigma. Each year looking at the TEE results it is obvious that

more than half of them are of ethnic origin. They respect their teachers as though they are just about the next thing to God (*The West Australian*, 12 January, 1997).

## 2 THIS STUDY

This paper investigates the academic performance and occupational destinations of children from six Chinese-Australian and Anglo-Australian families residing in a predominantly middle class suburb of Perth Metropolitan area. Data for this paper come from two sources: doctoral thesis that the author completed in 2000 and ten years later from six of the original eight families still residing (except for one) in the same suburb of Perth. All names used in the study are pseudonyms. Chinese-Australian families are from Malaysia, Singapore and Hong Kong. Anglo-Australian families are third-generation Australians with British and Irish ancestry.

Qualitative methodology has been used to understand the home life, school experiences and satisfaction with the first job of young adults from these six families. By using ethnographic techniques, mainly participant observation and conversational interviews, I could enter into the lives of the teenagers to understand their world view of success at school. My access to the research cases ten years later was facilitated by the good relationship I had developed with parents and their children when I was conducting the original study. Full details on the methodology are explained elsewhere (Malik, 2000). For the second phase of this research, two interviews (each time lasting over two hours with each young adult) and two hours with each family took place at their residence. Research cases and parents were more relaxed to talk about the views on education and other aspects of their life style. All of these young adults had moved to their own homes, some of them had married and the rest had partners. In this second round of interviews parents and their children were contacted in their own residences. Also, I had been collecting the data (for 10 years) from the annual TEE results of Paramount Senior to have a tab on finding out academic performance of Chinese-Australian and Anglo-Australian students from Paramount Senior High and other schools.

Table 1 Descriptive Information about the sample

	<b>Chinese-Australian Families</b>		
	<i>Cheong</i>	<i>Goh</i>	<i>Kwang</i>
Target children	Victor Yr.9 Pearl Yr. 7	Chi Chen Yr. 9 Tien Yr.11	Hongzia Yr. 9 Miran Yr. 7
Parents' education	Father: B.A. Mother: Yr. 12	Father: B.A. Mother: Nursing	Father: Yr. 12 Mother: Yr. 12
Parents' occupation	Father: Accountant Mother: Secretary	Father: Computer technician Mother: Nurse	Father: Porter in a hotel Mother: Factory worker
	<b>Anglo-Australian Families</b>		
Target children	<i>Morgan</i>	<i>Marshall</i>	<i>Morrison</i>
Parents' education	Father: Dip in engineering Mother:Dip. Primary school teaching	Both parents dropped after Yr. 11	Both parents dropped after Yr. 11
Parents'	Father: Engineer	Father: Aircraft	Father: Factory

occupation	Mother: Teacher	fuelling Mother: Secretary	foreman Mother: worker at a shop
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### 3 Chinese-Australian Families

#### *Background*

Three Chinese-Australian families are from Malaysia, Hong Kong and Singapore. They immigrated to Australia in the late 1980s after their first-born child had completed primary schooling. In their native countries male parents in Cheong and Kwang families and both parents in the Goh family were employed in white-collar jobs. Their own parents (grand parents of children discussed in this paper) were self-employed in small businesses like street hawkers, small grocery stores or owning coffee shops. Parents in these families had seen the hardships which their own parents had gone through and the sacrifices they made to provide them with education. They worked hard at school and settled in white collar jobs which enabled them to lead a much more comfortable life than their own parents did.

Three factors motivated these families to emigrate to Australia: better educational opportunities for their children, an appealing life-style in Australia, and socio-political problems in their own countries.

The choice of Southside as a place of residence, where Paramount Senior School is located, was not a coincidence. They bought their houses in this suburb because of the academic reputation of the school.

#### *Overcoming the Initial Problems*

With the proceeds brought from their native countries, these families bought houses in the catchment area of Paramount Senior High. Each family bought two cars and all the necessary household items. They deposited some money in banks and left some in banks in their native countries (in case they decided to go back). With their Australian qualifications and relevant work experience the Gohs and Cheongs were quite confident about getting jobs commensurate with their qualifications and experience. These families confronted more problems than they had anticipated. Unable to get suitable jobs, they tried their luck in starting ethnic food restaurant with not a great deal of success. Yu Chi Kwang, an assistant hotel manager in Hong Kong, got a job of a porter at a city hotel as well as driver instructor for Chinese community. Kwan Wen Cheong started to work as an accountant. Ming Sen Goh and his Yan Form bought a news agency.

While parents struggled to make a living, their children's experiences at school were like night mares. They faced language barrier and problems in adjusting with their Anglo-Australian counterparts. Excerpt below encapsulate the school experiences of children from these families:

When I started going to school in Perth at first I copied someone's work all the time, because I did not know what to do. So they called me a 'copy cat', 'ching chong', 'Honkie bitch'. They teased me all the time.... I was afraid to tell my teachers. One day I wet my underwear because I was afraid of some kids. I couldn't make friends because I couldn't communicate with others. I not only had problems with speaking English, but understanding the Australian accent-Miran Kwang.<sup>2</sup>

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<sup>2</sup> Lee Kuan Kok, not included in this study, was bullied in primary as well as in high school. He ended up getting the psychiatric treatment. The heart-broken experiences of the family are discussed elsewhere (Malik, 2000).

### *Commitment to Education*

Parental emotional support and the provision of social and cultural capital (Coleman, 1988) were evident in these families. They brought with them a cultural view that scholarship and effort were the route to social mobility. Although these families were new to Australia and did not understand the Australian educational system well, they had one common goal: keeping their children committed to schoolwork. Parents worked hard on low-paid jobs and showed frugality in spending on their personal comforts but invested heavily on educational resources for their children. Fully aware of their children's social and academic problems, the parents adopted the strategy to suffer themselves but help their children overcome language-related and social adjustment problems.

Parental commitment to the education of their children was well-reflected in their investment of time, educational resources, and the provision of home tutors in English, mathematics, and science, even when the possibility of success was already high (Chi Chen, Hongzia, Pearl, and Victor) or very low as in the case of Tein Goh. The Kwangs were the most persuasive and even coercive in their demands for high grades. Mr. Kwang's illness (died of liver cancer in April, 1996), unemployment of both husband and wife (Mrs Kwang had resigned from her job in order to look after her ailing husband) and financial hardship did not stop Hongzia and Mran from employing a home tutor in mathematics. Both girls improved in English and were no longer in English as Second Language classes. The dying wish of Mr. Kwang to his older daughter was: "if something happens to me you do not give up your studies. We came to Australia for your sake. We would like you to be a doctor". In response to a question "If the class average is 70% what score would you be satisfied with"? these parents were not satisfied an average score, whereas Australian parents were generally satisfied. (more on it refer to Malik, 2004). In advising their children the parents were not driven as much by the interest of their children as by the career which they wanted them to pursue.

### *Parental control*

The most striking feature of these families was their control over their children's after-school hours' activities. By controlling where and when children went, the parents controlled the activities of their children. There was a marked parental curtailment of children's spatial parameters outside the home. Even at home, activities were outlined and most time was spent in doing something which the parents considered purposeful. Two factors appeared to be operative in parental control strategies: parents' belief that they owe responsibility to discipline their children, and their fear that if they allowed them to mix with the Anglo-Australians or some 'Asians who had become too much Australians' they might lose interest in studies. Tight control and restrictiveness exerted by parents were not accompanied by hostility or coercion. The parents monitored the routine learning activities and provided corrective feedback and imposed sanctions to reinforce their children's behavior. Strongly ingrained in Chinese culture Mr Cheong explained:

How come the Australians allow their 15-year olds to start their own lives? Instead of asking my children to do part-time work I will work longer hours and provide them with tutors in maths and English. Chinese parents not only encourage their children to work hard in their schoolwork but they are all the time behind them.....(Do) you know why the Asians do well in studies? It is because of the culture. Chinese are taught to respect their elders and teachers from the early age.

When these parents were asked: what worries you most about your child when

s/he goes out with Anglo-Australian children? Invariably they said, “They may catch some Australian (bad) habits like questioning parents’ authority.” In order to protect their children from ‘picking up the wrong habits’ the parents gave them frequent mini lectures to guard against the ‘negative influence of street kids’.

*Hard work key to success*

The single-most important factor contributing to the improved performance of Chinese-Australian students was their predisposition towards schoolwork and the inordinate amount of time they spent on school-related activities. Table 2 shows that the number of hours per week these students spent on school-related activities ranged from 15 hours to 25 hours. This stands in sharp contrast to the abysmal amount of time spent in sports, part-time and socializing with their friends. All of them had hired tutors in maths, science or English.

Now (Year 11) I work so hard my Dad says, ‘don’t give yourself too much pressure. Our family doctor (Chinese) tells me that I should relax as well. But how can I relax until I finish TEE and get a good score to get into medicine? I got ‘A grade’ in all subjects but my average was below 88%. Unless I get 88% aggregate I cannot get in medicine-Hongzia.

These students had internalized the education-oriented values of their parents and had become autonomous in their approach and interest in studies. By putting in their best effort in studies and securing improved grades in each successive examination they impressed their parents who in turn rewarded them with presents related to their studies and educational games. For example, Mr Cheong would take Victor to play more often a game of golf where he would create even more strong bond with his son. He would ask his daughter to slow down on her obsession to read books all the time and Mrs Cheong started to take her every now and then to do aerobics. Chi Chen was allowed to socialize with his friends more often because parents were fully convinced that Chi Chen’s friends invite him to their homes because of his academic excellence.

Table 2 Number of hours spent in doing various activities per week

	<i>Chinese-Australian children</i>							
	Homework	Part-time job	Home tutor	Sports	Tv/music/computer	Socialising with peers	Socialising with parents	Household chores
Chi Chen	17	2	2	4	20	8	4	-
Hongzia	24	-	2	-	18	-	6	2
Miran	22	-	1	-	29	4	7	4
Victor	23	-	2	6	8	2	6	2
Pearl	25							
	<i>Anglo-Australian children</i>							
Clint	5	12	-	10	22	20	2	6
Glenn	3	10	-	6	31	16	2	4
Ben	11	14	-	15	15	10	6	4
Chris	12	16	-	14	20	22	5	3

Ironically, the school system tended to favour the Chinese-Australian students



because with their positive attitude toward schooling and ‘docile predispositions’ (Ho, 1994) they impressed their teachers who interacted with them in a warm and positive manner. Thus, the culture of the Chinese-Australian homes tends to match the culture of the school which is not quite the case in Anglo-Australian homes (Malik, 2000). Chinese-Australian children have a dual advantage: academically supportive homes and teachers who reward students who follow the rules of classroom and try hard. With their docile dispositions (mainly attributed to their home life) these academically-oriented students tended to get favourable attention from their teachers because they were distinctively competitive, hard working, enthusiastic, and pleasure to teach. It was their conformity to authority of teachers at school, that contributed considerably to their higher educational achievements. As a group, Chinese-Australian students were punctual, had a very low rate of absenteeism, were not reported for misbehavior, were regular users of library, laboratories and computers, were not involved in serious anti-social behavior like vandalism and took their schoolwork seriously.

At the end of high school in Year 12 all of them did extremely well in TEE as shown in Table 3. They enrolled in the university to study for professional degrees.

Table 3 Academic Performance and Occupational Aspirations

<b>Name</b>	<b>TEE/TAFE Score</b>	<b>Career Aspirations</b>	<b>Occupational Destination</b>
Chi Chen Goh	450/510	Science/engineering	Mechanical engineer
Victor Cheong	367/510	Commerce	Accountant
Pearl Cheong	350/510	Commerce	Accountant
Lena Goh	335/510	Business	Accountant
Miran Kwang	354/510	Optometry	Optician
Clint	Completed Yr.12 TAFE	Male Nurse	Occupational therapist aide
Glenn	Completed Yr.12 TAFE	Cabinet maker	Working at a countryside pub
Ben	231/510	Teacher	chef
Chris	240/510	Draftsman	salesman

#### 4 ANGLO-AUSTRALIAN FAMILIES

##### *Background*

Three Anglo-Australian families included in this study are second and third generation Australians with English and Irish ancestry. Love of beach, sports, beer, outdoor life, having a friend of the opposite sex and a part-time job at an early age, and owning a house on a big-sized block are some of the attributes of mainstream Australian culture. The Morrison family represents most of these values. In his late forties (at the time of first contact in mid-1990s) Don Morrison loves talking about fishing and Australian Rules Football, but finds himself a bit lost when forced to talk about academic matters. Maureen Morrison, a keen gardener, often says, “I suppose I have green fingers. I don’t mind getting dirty (while doing gardening)”. Mr Morrison works hard in a noisy glass factory almost from dawn to dusk from Monday to Friday and half day on Saturday. As Mrs Morrison explains: “He works in a noisy factory and complains about back pain. He comes home to sleep. If he had extra time he wouldn’t know what he would do with it.” Most of the time he comes home so exhausted that he can hardly find time to talk to his sons about their school work, even though the

family members eat dinner together. While Mr Morrison remains busy in his monotonously repetitive work, his wife does part-time work for four days a week. The Morrisons' two sons, Clint (16) and Glenn (14) are very keen on sports, surfing and the outdoor life. Both of them are studying at Paramount Senior High and have earned the admiration of their physical education teachers for being good at sports. After school, Clint and Glenn either spend time watching TV or playing sports or doing part-time work with the full encouragement of their parents.

Paul Morgan, a tall, medium-built man with receding hairline, is in his late forties. He is a mechanical engineer in an industrial plant. As a young man Paul was a fine athlete, an excellent player of squash, basketball, and Aussie Rules Football. His wife Nancy is a slim, medium height and in her mid-forties. She is a primary school teacher. Both are second-generation Australians with English ancestry. Happily married for 24 years, Nancy described her married life as 'bliss'. The Morgans had been living in Southside for more than two decades. Paramount Senior High is a walking distance from the Morgan residence. In the Morgan family there are three children. Shane, the first-born is a gifted athlete and academically-oriented; Anne, is a good athlete and mediocre student. Ben is a fine athlete but academically below average student. When I first contacted the Morgan family in 1994, Ben was in Year 9 at Paramount Senior High School. Although Ben had taken his older brother as a role-model, his parents were worried because he was not putting enough effort in his school work.

Mike and Susan Marshall, in their forties, are third generation Australians with the British ancestry. Stocky, sun-tanned and rugged-looking Mike always worked on blue-collar jobs. Currently he is a shift worker at the domestic airport fuelling aircrafts. His wife is a tall, slim and fair complexioned. She is a part-time secretary to a physiotherapist. Marshalls have four children: Chris in Year 11, below average in academic subjects; Rachel in year 9, academically very bright; and Felicity and Mark who are in primary school. Mr. Marshall lives by the skill and strength of his hands. He enjoys physical activity and relates to the physical world through the manipulation of tools and materials. With shoulder-length hair, Chris is a disappointment to his parents because he does not conform to their advice to take his studies seriously. In primary school he was hyperactive but an above average student. He started high school as an average student but his grades kept on deteriorating as he moved through the high school. His preferred activities at school during recess and at home are to socialize with his peers, none of whom is academically-oriented. During his after-school hours he spends most of his time watching TV, listening to stereo and surfing, which is his main passion in life. Part-time work has given him the taste of economic freedom. His parents find it hard to motivate him in his schoolwork.

### *Approach to Education*

Anglo-Australian parents grew up in an era of the Australian history when most teenagers finished school in Year 10 and went on to find jobs. From floor to management was the general pathway to social mobility. These parents grew up with the attitude that higher education was not a prerequisite to enjoy good life. The concept of a good life for them was encapsulated in their interest in sports and leisure activities, satisfying short-term gratification and a stress-free life. In these families the parents achieved material comforts independent of higher education, and believed that the Asians were changing their values and life style in Australia. They had a much broader view of school: a place to learn new skills and acquire knowledge, a place for vocational training, a place to excel in competitive sports, and a place to socialize with friends.

Anglo-Australian parents realized that education was important but did not change their life style, and so failed to provide the necessary social capital for their children. Parents' emphasis on their children's early social and economic independence, and their sports and leisure-oriented life style encouraged their children to be peer group-oriented. Ben, Glenn, Clint, and Chris, therefore, got the message that higher education was not crucial to their lives. They were unwilling to extend the extra effort needed for success in studies.

The parents of Anglo-Australian children provided quiet study areas, an abundance of educational resources and wanted their children to take school work seriously. When their children were in primary school the parents were involved in their schoolwork, but when they started to go to high school there was a gradual parental withdrawal from the study programs of children. When it came to helping children in their school work the Morrisons and Marshalls were not sure how to help them, and Morgans were inconsistent. Excerpt from the interview with Mrs Morrison is typical of parents' frustrations with their children:

I want to help them in their homework but I don't know how to do it. They are in higher grade than I went to. When they were small kids they used to listen to what I told them but now they don't listen. The older they grow harder it is to control them.... Sometimes Don lets them drink light (low alcohol) beer at home so that they don't drink with their friends-Mrs Morrison.

Ben's parents asked him to take sports with keen interest but at the same time they wanted him to do well at studies. By Year 11 he had become passionately involved in sports but his parents were struggling to get him interested in studies.

#### *Resistance to schoolwork*

Resistance to schoolwork (Clint, Glenn, Ben and Chris), physical aggressiveness (Glenn and Ben), and vandalism (Glenn) were common acts of resistance of these students. Alienation from learning, rejection of curriculum, misbehavior in class, and criticism of knowledge and values transmitted by the school conflicted with the demand of teachers who wanted them to follow the class rules and do the school work. These students tended to disobey school rules and developed negative attitudes towards school and teachers. Tagged with negative labels they sought out the company of their sports and leisure activities oriented peers which acted as multipliers to encourage them to break school rules, disrupt lessons, 'give cheeks' to their teachers and fail to complete homework.

The lack-luster performance (Table 3) performance in studies and strong orientation in sports of the Anglo-Australians may be attributed to parenting style, lack of social capital, and parents' own interest in sports and leisure activities.

## **5 TEN YEARS LATER**

### *Parents' responses*

Ten years later I contacted six of the eight families and their children. Addresses of the other two families could not be traced. None of the Anglo-Australian student had enrolled in the university to further their education. To a question: Are you disappointed about your son as he did not go for higher education? Parents' responses were mixed. Mr. Morgan said, "Yes, it would have been nice if Ben had continued university education. We wanted him to do that. But he has not done badly. He plays Aussie Rules Football and got a good job as a pastry chef."

Mr. Marshall said, “Well we knew he (Chris) was not going to make university. He always liked surfing and girls. He is good at talking to people. He has got a good job as a car salesperson and making as much money as I do (smiles). He is happy. That is the main thing.”

Mrs Morrison talked about Glenn and Clint. “We really wanted at least one of them to go to university but we knew that study was not their forte. High school was not their best experience. They were relieved when they finished Year 12. Mind you they did not disappoint us. My husband and I dropped from school after Year 10 but they completed Year 12. So they did better than us. Now they are working full time and have girl friends. They are very happy.”

Chinese-Australian students had completed university degrees and had settled in professional jobs. I asked the parents if they were happy for the achievements of their children. In general they answered in affirmative but Mr Cheong wanted his son or daughter to do medicine. Mrs Kwang also wanted her daughter to do medicine, even though she had done dentistry. Gohs were very happy with the outstanding achievement of their son but disappointed with poor performance of their daughter who just did a degree course from the university.

#### *Students' responses*

With two meetings with these students (now in their twenties) I gathered that they were happy they were not in the school or university any more. Anglo-Australian students boastfully talked about the hard time they gave to their teachers. In fact, they were more open to talk about the school days now than they were 10 years ago. Now assistant manager of a country pub (hotel) Glenn said, “Rambo (Ranbir) mate I am doing very well. School gave me shit. I play basketball, go to beach for surfing and earn more than you mate.... I don't give a shit to university. Come and visit me, I will give you free piss (beer).”

Clint (Glenn's older brother said: “I love my job (assistant to occupational therapist). It is nice to help people. I get plenty of time in my job to play basketball. I do not live with parents anymore..... I have no desire to go to university as a mature age student. In fact, I never had any desire to study at the uni(versity). My best experience in school was to make friends and play basketball.”

Chris had become an articulate car salesperson and was very elated about his job. He spoke about his post-school life and reflected on school days.” “To be quite honest with you I have done very well even though my parents wanted me to study at uni. After having many girl friends I think I have settled on the one I have now.”

Even though Hongzia had done dentistry she was unhappy because she could not fulfill the wish of her parents to be a doctor. Her sister Miran was working happily as an optician. Their mother was not doing the job as a factory worker and she was happy with the achievements of her daughters.

Gohs were the most relaxed family as their son Chi Chen had done outstandingly well to become a competent engineer and their daughter had married a Chinese-Malaysian and had become good Chinese dancer and doing the job as an accountant. Life style of the Goh family had become more Western rather than Chinese. Parents enjoyed wine with dinner, occasional dose of quality whisky, German Shepherd as a guard dog and the like.

Cheongs had started their own small accounting firm with son (Victor) and daughter (Pearl) working with Mr. Kwang. Mrs Kwang was doing book-keeping. All the employees of Mr Kwang were Chinese-Australians. The only regret of Kwang family was their son could not do medicine. Victor was still doing some short courses to upgrade his skills as an accountant. His aim was to be chartered accountant.

## 6 SUMMARY

The home environment of Anglo-Australian and Chinese-Australian students differs considerably. Overwhelming weight of evidence suggests that parents' interest in the schooling of their children, social and cultural capital in homes, the ways educational resources are used, the ways parents are involved in the education of their children, and the amount of sacrifice parents make on their own comforts for the sake of encouraging their children to take schooling seriously there is a big difference in Anglo-Australian and Chinese-Australian homes. Chinese-Australian parents go an extra mile to ensure that their children make their best effort to excel in studies. There is a continuity of school activities in the homes of Chinese-Australian children. By comparison, Anglo-Australian parents attach more importance to sports and leisure activities than Chinese-Australian parents do. This difference is striking in the after-school hours, weekend and long holidays activities of children from Anglo-Australian and Chinese-Australian children. Chinese-Australian children unfailingly complete the homework given by teachers, at weekend they spend time to revise their school work and during holidays many of them do extra study from the books provided by their parents, mostly on science and mathematics. Very rarely they are involved in organized sports activities.

Anglo-Australian children spend more time on sports activities during after-school hours than they do on studies. Many of them take part time jobs even if their parents are in a position to support them financially. They spend more time in socializing with their friends and maintain the attitude that 'holidays are to have fun', an attitude well reinforced by their parents. So there is a discontinuity of activities done at school. Ogbu (1987, 1991) calls it discontinuity hypothesis. On the other hand, when home and school have converging emphasis on motivation and learning children are likely to do well in academic activities. Joint school and family efforts are likely to be most powerful when there is a psychological continuity between home and school. The central role that home plays in the development of cognitive and non-cognitive characteristics is hardly in question. Self-motivation has its roots in children's pre-school experiences in the family and social network. The role of home in cognitive development is paramount. A home that provides stimulating environment rich in the range of experiences available and where adults are involved in the education of their children the latter excel in academic performance. The social matrix in which children are embedded has a profound impact children's outlook towards life. With no better IQ scores, English language problems, and problems related to social adjustment in host society Chinese-Australian students kept on improving and with equal or better IQ scores and good financial conditions of parents Anglo-Australian children kept on showing little improvement in their performance at school.

While Confucian values are evident in the Chinese-Australian families, the Protestant work ethic is missing in the Anglo-Australian families. Anglo-Australian families appear to be satisfied with average academic performance but demand excellence in sports. The amount of time Anglo-Australian students spend on socializing with peers, doing part-time work, and playing sports compete with the

time spent on studies. With low expectations in studies, a negative or indifferent attitude toward school, Anglo-Australian students make little effort and challenge the authority of their teachers who demand compliance.

There is a striking discontinuity between home and school of Anglo-Australian students. Socialized one way out of school and another way in school, they were not predisposed to school tasks that they perceived to be pointless and boring. Anglo-Australian parents are failing in their responsibilities to their children in an academic arena, but quite supportive of their children's interest in sports activities. Anglo-Australian parents encouraged their children to look for part-time job but provided no home tutors for their struggling children. Mrs Morrison's advice to her 15-year old son Glenn captures the psyche of other Anglo-Australian parents: "If you don't try to find a part-time job now you won't get later". This stands in sharp contrast to Mr. Cheong's alarmed question: "How can the Australians ask their 15-year olds to look for part-time jobs? What are parents for?" Evidently, education does not play a central role in the Anglo-Australian conception as it does for Chinese-Australian parents. It is this belief, I submit, which explains why Anglo-Australian parents are satisfied with mediocre performance of their children. Self-deprivation syndrome is evident in Anglo-Australian families. Resistance as an assertion was common in Anglo-Australian boys. Swearing, smoking, yelling at teachers, wagging school, criticism of knowledge and values transmitted by the school were common acts of resistance. Ten years later, they still showed dislike about anything related to teachers and school.

Asian high achieving syndrome of Chinese-Australian students, based on the findings of this small sample, is not because these students are more able than their Anglo-Australian counterparts. Chinese-Australian parents are high in controlling the behavior of their children which is linked to the Chinese tradition of parental authority and filial piety and the Confucian dictum that 'parents are always right' (Ho, 1986). This conforming behavior to the authority is rewarded at school because teachers tend to interact more positively with students who follow the class rules and complete the given tasks. Parents' life style revolves around the education of their children and parents organize their homes accordingly. High premium attached to education is internalized by their children who please their parents with high grades. These parents have converted mediocre students to high achievers and helped them get professional degrees and well-paid jobs.

## 7 CONCLUSIONS

To conclude, a caveat is not amiss here. Chinese-Australian parents' over-emphasis on academic achievement of their children is not without adverse consequences. Excessive pressure took a psychological toll on Hongzia who was very close to a nervous breakdown. Pearl developed eye sight problem due to excessive reading. "It is prudent to ask: In pursuit of high academic credentials are these parents doing incalculable psychological damage to their offspring? Is the pursuit of academic excellence at the expense of other activities detrimental to the long-term interest of these children and society at large? These children are not given sufficient opportunities by their parents to develop social skills, and are at risk of remaining social outcasts in mainstream Australian society" (Malik, 2004, p.75). Too many Asian students are being educated and socialized to be robots, for work and not being educated for decision-making and administrative positions (Suzuki, 1977).

On the other hand, Anglo-Australian parents tend to fail their children because of

the gradual withdrawal of encouragement as their children progress through high school. Anglo- Australian students, given more encouragement by parents, might narrow the gap to reach their full potential in academic studies. If Chinese-Australian families came to Australia for better lease of life for their children, they might therefore be usefully encouraged to exploit the other socio-cultural opportunities that Australia offers, just as Anglo-Australian parents might be encouraged to take more personal responsibility for the formal education of their children.

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**Out of the Box!**  
**Cross-Cultural Understanding as Part of English Language Learning**  
**in the Globalisation Context**

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**ABSTRACT**

Learning a foreign language becomes a crucial matter for Indonesian students to deal with the challenges of Globalisation. As the most prominent language in the world by reason of its position as an international language, English is the most learned foreign language in Indonesia. Teaching and learning processes in Indonesia are mostly done in the classrooms including those conducted in the tertiary level of education particularly in English Language Teaching (ELT) programme. The most important aspects to be learned are the features of the language that include the structure and pronunciation. The reality shows that a classroom is deemed as a closed box where educational context is separated from society (Pennycook, 2000). In this perspective, the most crucial thing in the language learning process is how teachers transfer their knowledge concerning English structures, grammar or pronunciation to their students. However, it should be taken into account that when we are learning a foreign language, we have to also learn the culture of the countries and the people where the language is spoken. Cross-Cultural Understanding is a subject that facilitates students to learn the culture of the countries and the people in which English becomes the first language and compare them with the culture of their own. The subject, by contrast, drives teachers to view classrooms as ‘sociopolitical spaces that exist in a complex relationship to the world’ (Pennycook, 2000). This paper discusses how educational context particularly English language education in the Globalisation era should be integrated with social and cultural reality.

Keywords: Cross-Cultural Understanding, English language education, Globalisation.

**1.INTRODUCTION**

Learning a new language means learning the culture where the language is natively spoken. The reality is closely related to the fact that in sociolinguistics, ‘knowing a language also means knowing how to use that language’ (Wardhaugh, 2006). In this sense, language learners should know not only the features of the language but also how to use them properly in real situations. The social and cultural aspects of the place where the language learned is spoken as a native language should also be learned by the learners. The mastery of a foreign language is not limited only on the features of the language. Language is in fact ‘an integral part of the culture with which it is connected’ (Hendon, 1980). Since the aim of language teaching and learning is to provide students with communicative competence, foreign language proficiency should be supported with adequate knowledge of the culture of the country where the foreign language learned becomes the first language. Cultural knowledge is undeniably one of the crucial aspects in the real-world communication.

However, the emphasis of language learning in Indonesia is still on the language

features particularly those dealing with the structure and pronunciation. Indonesians believe that if certain people know the structure of a foreign language well and are able to pronounce foreign words as similar as possible to the native speakers, that particular people are considered to have good mastery in the foreign language. The teaching and learning processes of the language frequently leave the importance of cultural knowledge behind. Learners are accordingly only able to have good comprehension on reading and listening and also produce sentences with flawless grammar as well as utter some words in good pronunciation. But it is in fact far from the real situations as they become stuttered and reluctant to speak well when dealing with native speakers or other Indonesians who have better proficiency in the particular foreign language.

## **2. ENGLISH AND THE CHALLENGE OF GLOBALISATION**

Learning a foreign language is, indeed, related to the challenges that have to be faced in the Globalisation era. The language that is widely used across the globe is English. Indonesians have accordingly placed English as the most learned foreign language since it is considered as the language used for international communication. Indonesians are accordingly challenged to learn the language. They even try to demonstrate that they are able to speak English even though only one or two words come in between their long Indonesian sentences. In this sense, English is deemed to be a tool to strengthen one's social status. English is 'often assumed to be a language that holds out promise of social and economic development to all those who learn it' (Pennycook, 2010). Moreover, English is believed to be a symbol of how educated the person who speaks it even though he or she just inserts one or two English words, which are sometimes out of context, in their statements that are actually delivered in their native language. For Indonesians in general who mostly have only basic level of English proficiency, it does not matter at all. They just show their acknowledgement to the person who gives the statement that his or her English is good. But for those who know English well, the phenomenon becomes something inconvenient to be seen. It thus becomes the concern of ELT educators in Indonesia.

The fact in which English is placed as the most important language to be mastered by Indonesian educated people has further made parents ask their children to learn English as early as possible. The parents, again, believe that mastering English is a way to show someone's social as well as educational status. They are very proud when their children are able to speak English, even when only a single word is spoken. There is only a single expectation in the parents' mind that in the future their children will be able to speak English fluently so that they are able to become the winner in the tight competition generated by Globalisation. In this case, Globalisation is seen as 'interconnections and flows among nations, economies, and peoples' (Kumaradivelu, 2008 in Pennycook, 2010). The relationship is connected by English as a means of communication. Therefore, parents assume that by learning English at school, children will be able to communicate well in the real situations they have to face in the future.

The focus of the teaching and learning processes at school is yet still on the language features of English. In the kindergarten, elementary, junior high, and high schools, the emphasis of the English learning process is on how to produce sentences with accurate grammatical rules and pronounce words correctly. Teachers often do not pay much attention on the importance of cultural understanding. They put language learning in classrooms as something isolated from social and cultural context in the real situations. It has made students confused. On one hand, they are able to produce

sentences without any grammatical mistakes. On the other hand, since they know only the language features of English without having equipped with knowledge concerning the culture of the place where the language is natively spoken, they often misunderstand with what the native speakers say and frequently become stuttered as what they say is contextually inaccurate. When the teaching and learning processes only concentrate on the language features such as the set of grammatical rules and pronunciation, the main function of English as means of communication and a tool used to face Globalisation will not be obtained.

If the language is only taught that way, students will only be placed in between two parties' ambition. The first ambition is the parents' as they want people to acknowledge their children to be bright and ready to get involved in the globalisation competition. The second ambition is the schools' and the teachers' ambition. As long as they can make their students be able to speak English and produce sentences and utterances with correct structure, they will be considered qualified and, for the schools particularly, they will be rated as favourite schools.

### **3.CROSS-CULTURAL UNDERSTANDING AS PART OF ENGLISH LANGUAGE LEARNING**

When the focus of English language learning in the primary and secondary levels of education in Indonesia is more on the language features and tends to put the cultural aspects aside, the English teachers' education should be reviewed. The fact that classrooms are viewed as closed boxes where educational context is separated from society (Pennycook, 2000) is not limited only to these two levels of education. In the tertiary level of education, the emphasis is still on the language features of English, even in the English Language Teaching programme.

A question might rise after viewing how actually English is taught in the tertiary level of education especially in English Language Teaching (ELT) programme. What is actually the focus of the programme especially designed for the future English teachers? After viewing the distribution of courses offered in ELT programme, I can conclude that the emphasis of the courses is on the English language skills that comprise reading, listening, speaking, and writing since the four skills are given simultaneously and progressively from the first to the fourth semester. It implies that students are drilled with English language features in the first two years of their study. If the length of the study in the tertiary level of education in Indonesia is normally four years, the fact indicates that students spend half of the time of their study to intensively learn how to achieve good mastery in English language skills.

In learning English language skills, classrooms are viewed as closed boxes, places that are far and separated from society. Classrooms are places for students to learn the linguistic features of the foreign language they learn and they are seen as isolated places for studying a language. Students are given chances to actively involve in the teaching and learning processes in these closed boxes. What becomes the most crucial thing in the places is how teachers transfer their knowledge concerning English skills that mostly deal with grammar, vocabulary, pronunciation, and other elements of language to the students without paying much attention on the cultural aspects of the place where English becomes the first language. In such situation, according to Pennycook (2000), the main concern is only on 'how teachers can encourage the students to learn, to remember, internalize, and use the necessary pieces of language' without paying much attention to the cultural knowledge that is, in fact, much involved in the real-world communication.

However, to be able to communicate well in the real situation, the mastery of the four language skills is not enough, particularly for students who are trained to be English teachers in the future. Classrooms cannot be viewed only as ‘isolated places; classrooms are “just classrooms”’ (Pennycook, 2000). Students of ELT programmes certainly need to be equipped with adequate knowledge of the culture of the places where English become the first language. Classrooms should accordingly be opened and considered as socio-cultural spaces that are intertwined with the real world outside. Cross-Cultural Understanding is a subject offered in the fifth semester that possibly makes a classroom no longer become a closed box as in the subject, language should be viewed beyond the box – beyond the language skills and features taught.

Cross-Cultural Understanding is a subject that facilitates tertiary level students majoring ELT to learn the culture of the countries and the people in which English becomes the first language. The term cross-cultural means ‘across’ or ‘between/among’ culture, which means ‘shared ways of behaviour which are learned that groups of people use to understand and interpret the world (Smith, 2009). The most significant purpose of the subject is thus to equip students with good understanding about the culture of the places where English is spoken so that they will be able to compare it with Indonesian culture. The topics covered in the subject include cultural conflict and adjustment, verbal and non-verbal communication, personal relationships, frankness, academic life, work values, family types and traditions, lifestyle, time and space values. Since the subject concerns understanding and relating two different cultures (the culture of the places and people where English becomes the first language and Indonesian culture), comparisons with the Indonesian equivalents, similar forms but different meanings are also discussed.

In Cross-Cultural Understanding class, the classroom should not be viewed as a closed box in the same way as any other language skill subjects. It should be viewed as a ‘sociopolitical spaces that exist in the relationship to the world outside’ (Pennycook, 2000) instead. The classroom is viewed as a social space where interaction among people from different cultural backgrounds takes place. Even though all of the students are Indonesians, they come from different areas of the country, which means they come from different ethnic groups. The class is in fact a vivid example of a space where various cultures meet. The interactions among the students, the complications that might happen due to the cross-cultural encounters can be taken as examples of how to deal with cultures that are different from our own. The reality can be brought as an introduction to define the concept of cross-cultural understanding before they are actually introduced to the culture of the countries and people where English is spoken as a native language.

The reality that the classroom is actually a socio-cultural space where cross-cultural interaction may take place is then related to the bigger socio-cultural space outside. The explanation about the foreign culture becomes easier to be internalized by the students since they are able to see by themselves the reality of cross-cultural interaction that takes place in the classroom. The most basic thing to be informed to the students is that language can be meaningful when it carries messages. The messages can be delivered to the hearer when the speaker understands their substances that often carry cultural elements. Language is therefore meaningful when both the speaker and hearer have the same cultural understanding.

The importance of putting classrooms outside the box is actually related to the fact that they are not separated or isolated spaces. They are, indeed, part of the society. In

globalisation era, where the world seems borderless and every culture in the world becomes blend, classrooms should be accordingly viewed to be borderless with the real world outside. Students should be informed that people from different nations in the world have different cultural background, but when they learn English as means of communication to interact with other people, they also have to learn English culture.

However, learning others' culture does not mean forgetting our indigenous culture. Cross-Cultural Understanding aims to enable students to have adequate knowledge on the culture of the places where English becomes the native language and at the end they are able to compare it with their own culture. Based on the purpose of the course, it is therefore expected that students can also appreciate their own culture as they are required to find the equivalent of certain cultural values and practices carried out in the English speaking countries.

#### **4.CONCLUSION**

Understanding the culture of the places and the people where English becomes the native language is undeniably part of English language education in which knowledge of the culture is essential to be comprehended by language teachers. The reality is closely correlated with the fact that language is intertwined with culture and that the messages it carries contain cultural attributes. The conventional point of view of learning English in which classrooms are perceived as isolated spaces that are separated from society should be changed. Classrooms are in fact rooms in which any possible socio-cultural contacts that are close to the real world outside take place.

Related to the phenomenon of globalisation, where the world seems to be borderless, classrooms are supposed to also be viewed to be wall-less. The walls that cover the classrooms and make them become isolated places should be opened and the language learning should be linked with the real social and cultural reality out of this box. Classrooms should be thus connected to society, as activities conducted in classrooms are also part of social interaction.

Cross-Cultural Understanding is taken as an example of the courses offered in the tertiary level of education. In the course, a classroom conventionally viewed as a closed box should be widely opened and that the language learning process should be linked to the real-world condition out of this box. The aim is to make students have adequate knowledge on the culture of the English speaking countries and at the end they are able to make comparisons between the culture and their own. Based on the purpose of the course, it should be underlined that learning others' culture does not mean leaving our indigenous culture. Understanding two different cultures at the same time in the classroom not only broadens students' knowledge on the foreign language particularly the one related to the use of the language in the real situation but also improves students' appreciation of their own culture.

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## A Framework for an Effective Tutor System in an ODL Institution in South Africa

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### **ABSTRACT**

This paper presents a framework for effective tutor system at the University of South Africa (Unisa). Unisa is an Open Distance Learning Institution (ODL) in South Africa and is experiencing challenges in the form of high drop-out rates, high failure rates and through-put rates of around 55,80% per annum in spite of the fact that Unisa has introduced the tutor-system about 15 years ago. Many Unisa students feel isolated, marginalized academically and administratively, especially those who are living in remote rural areas. Most of these students face the challenges of lack of tutorial support, late assignment feedback and late arrival of study material and prescribed textbooks. There is an increase in learners who come directly from Matric and who are underprepared for the demands of learning at a higher education institution. This under preparedness has placed unique expectations on teaching staff. The tutorial system was introduced to play an important role in enhancing student learning. Although the system was introduced some years ago, it is however, not making any significant impact to address the problem at hand. The factors that affect the effectiveness of the tutor system are identified and critically analysed. This study identifies information on innovative and good practices in an ODL in certain selected ODL institutions, especially in areas such as student services and tutoring support. The study presents the framework that addresses area of learner-support which is a critical issue at Unisa. In addition, the study aims to promote information sharing by publishing its results in an accredited journal.

Keywords: distance education, student support, tutor system, innovative practices.

## Detecting Of Differential Functioning of Items and Tests Based for National Test on Bayesian Procedure in Science and Mathematics Tests

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### ABSTRACT

This research has three main purposes. First, to detecting the differential item functioning (DIF) and differential test functioning (DTF) based on Bayesian procedure for gender group. Second, to compare the quality of test before and after DIF items are eliminate, in terms of reliability, validity and test information function. The last objective is to analysis the relationship between the rank of examinees' total score of the original test and the test after the DIF items are eliminated. The data are the examinee's item response to Science and Mathematics of Test for admission to first year of high school Demonstration School of Suan Sunandha Rajabhat University in the part of multiple choice items, administered by Test for admission to first year of high school Demonstration School of Suan Sunandha Rajabhat University in the year 2012. The sample of study was 1,240 examinees in Science and Mathematics tests, respectively.

The major findings are as follows:

1. Science and Mathematics tests are DTF according to examinees' gender and detecting differential item functioning according to gender subgroup is the largest number of DIF items in both Science and Mathematics tests.

2. The results from comparing the discrepancy between the quality of test before and after DIF items are eliminated, are as follows:

- 2.1 The construct validity of the test is not significantly different from that of the original test.

- 2.2 The reliability of the test is slightly lower than that of the original test.

- 2.3 The test information function has no difference by the test that after DIF items are eliminated is slightly greater than that of the original test.

3. The results from analysis the relationship between the position of sum score of the examinees before and after the DIF items are eliminated, have significant positive relationships. The correlation coefficient is in the range of 0.75 – 0.98 and 0.65 – 0.95 for the Science and Mathematics tests, respectively.

Keywords: differential item functioning (DIF), differential test functioning (DTF), Bayesian procedure.



## 1. OBJECTIVES

The purposes of this study are as follows:

1. To detecting the differential item functioning (DIF) and differential test functioning (DTF) for gender group for The data are the examinee's item response to Science and Mathematics of Test for admission to first year of high school Demonstration School of Suan Sunandha Rajabhat University in the year 2012.
2. To compare the quality of test before and after DIF items are eliminate, in terms of reliability, validity and test information function.
3. To analysis the relationship between the positions of sum score of the examinees of the original test and the test after the DIF items are eliminated.

## 2. METHODS

The researcher conducted the analysis of data in order as below:

1. Calculating the basic statistics in order to describe the scores of the test on both science and mathematics tests.
2. Testing the unidimensionality, construct validity and the internal consistency of each test by using the confirm factor analysis.
3. Analyzing the differential item functioning and test that divided by variations, namely, gender. The process of investigate differential item functioning using OpenBUGS program. The analysis would use the parameter's scores from male examinees, which were classified into reference group, then compared with females examinees, which were also classified into the focal group. Also using the parameter's scores of examinees who lived in Bangkok and vicinity areas from reference group to compare with the parameter's scores of examinees who lived outside Bangkok and vicinity areas from focal group.
4. Analyzing the differential test functioning : DTF that if the calculated DTF index is higher than 0.006, this means there was a difference in test functioning (Raju, et al., 1995) which resulted in keeping to cutting the test, that has a difference in test functioning, with the positive value and the highest score of the resulted DTF index out until DTF index became less than 0.006.
5. Analyzing the quality of the test after cutting out the differential test functioning that mean construct validity by considering the statistical goodness of fit measures from the test and The internal consistency reliability of each test for both before and after cutting out the differential test functioning based on the consideration of construct reliability.
6. Comparing construct validity of the model of the test on science and mathematics papers.
7. Comparing the quality of the test on the reliability for both before and after cutting out all or some of the tests, that have a difference in test functioning, and also testing the difference in reliability by using t-test (Fledt, 1980 cited in Ratchanok, Y. 2001).
8. Calculating the index of relative efficiency : RE on each test before and after cutting out the items on the test that has the differential test functioning.
9. Analyzing the relationship between the position of sum score of the examinees before and after cutting out the test that has the differential test functioning.

## 3. RESULTS AND DISCUSSION

1. Analysis of the sample data. A sample size of 470 examinees composed of 308 male examinees and 492 female examinees and the length of 50 items of each test

with science test and mathematics test. Score test maximum is 49 scores and 43 for science test and mathematics test respectively. The science test and mathematics test have average score are 32.53, 31.30 respectively.

Table 1: Description of the samples

Statistic	Science	Mathematic
Total score	50	50
Mean	32.53	31.30
Standard Deviation	6.93	8.90
Max	49	43
Min	13	0
Sample size	470	470
Male	254	254
Female	216	216

2. To test the assumption of unidimensionality exploratory factor analysis was performed for each item of science test and mathematics test. results are presented in Table 2 and figure 1. Percentage of variance explained for all item. However, clear and a factor is present only.

These results were confirmed with confirmatory factor analysis (CFA) using Lisrel 8.80 (Joreskog & Sorbom, 1993) computer program. CFA allows for testing of hypothesized factor structure simultaneously. All parameters (factor loadings) were significant and in the right direction. Goodness of fit indices showed reasonable, although not very exact fit both science test and mathematics test before cutting out the items on the test that has the differential test functioning results are  $\chi^2 = 1527$ ;  $df=1175$ ;  $CFI=.98$ ;  $GFI=.92$ ;  $RMSEA =.020$  for science test and  $\chi^2 = 1277$ ;  $df=1175$ ;  $CFI=.98$ ;  $GFI=.94$ ;  $RMSEA =.011$  for mathematic test.

Table 2. Eigenvalues and percentage of variance explained by first factors for test before cutting out the items on the test that has the differential test functioning.

	Eigenvalue of the first factor	% of variance explained by the first factor
Science test	6.83	13.66
Mathematics test	4.81	9.61

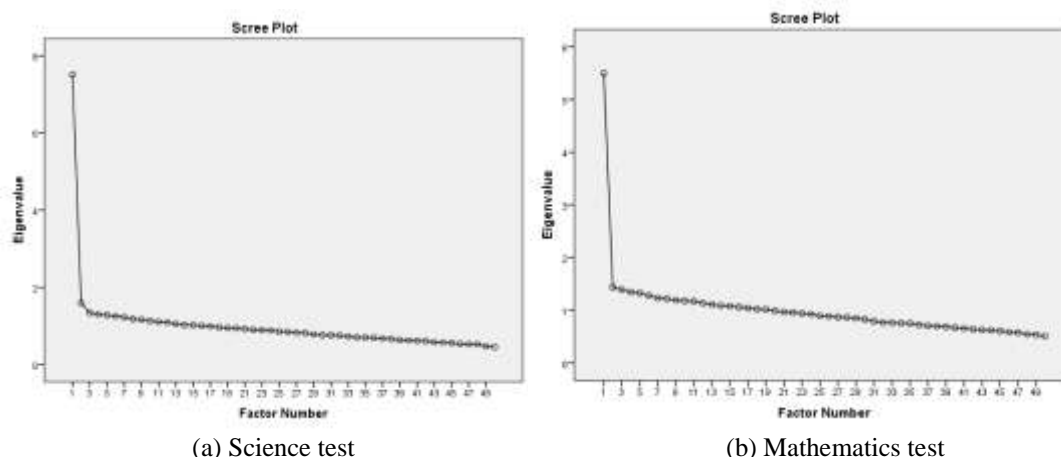


Fig. 1. The Analysis of unidimensionality exploratory factor analysis was performed for each item of science test and mathematics test.

2. The result of analyzes the differential test functioning by using the process of Bayesian. This the DIF detecting model can be easily implemented in OpenBUGS version 3.2.2, which is publicly available software for Bayesian analyzes using Gibbs sampling (Spiegelhalter et al., 2003 cited in Chaimongkol, 2005) and the detected on

the differential test functioning based on each gender reveals that the items on the test that has the differential testing functioning (DTF) were cut out for 12 items or converted to 24% for science test and cut out for 19 items or converted to 38% for mathematics test. The cut off items generated the information of the opportunity for answering the correct answers and compared between sub -groups in order to constitute the improvement on the test for a better quality. In case of cutting out any items in DTF, this must base on the purpose because this study wanted to verify the quality of the test to be the best quality and fairly model of the test in selecting the candidates who want to continue the further studies.

3. According to the result from the analysis of differential item functioning in science and mathematics tests as classified by gender group. It found that there were differential item functioning. This finding is consistent with Yisunsri (2001), who analyzed the differential item functioning of English and mathematics admission tests using DFIT process. As Yisunsri (2001) noted, the differential item functioning occurred when categorizing the group of examiners by gender more than by geographical location of the schools. She mentioned that gender might be highly related to the language learning achievement and computation skill. Similarly, Maier and Casselman (Peter and Darwin, 1994) claimed that male tended to have computation skill while female is likely to have language skill.

4. According to the comparison of validity and reliability of the test before and after elimination of differential item functioning, it was found that

4.1 As notified by gender, the construct validities of the science and mathematics tests before and after elimination of differential item functioning (DIF) were not significantly different in statistics at 0.05. It is because the validity is the degree to which the tool measures what it claims to measure, so eliminating the unrelated items would increase the validity of the test.

4.2 Statistically, the reliability of the science and mathematics tests before and after elimination of differential item functioning (DIF). It was also found that elimination of differential item functioning was negatively correlated to the reliability of the test. To clarify, the numbers of elimination of differential item functioning would decrease the reliability. The decreased number of the test items might reduce the observatory variance leading to the decreased reliability for the reliability could be estimated from the variance of the score ( $\sigma_T^2$ ) and observatory variance ( $\sigma_X^2$ ) (Kanchanawasi, 2007).

Therefore, the elimination of the differential item functioning (DIF) resulted in the decreased observatory variance, and then the error variance increased. Finally, the reliability of the entire test was affected to be decreased.

Table 3. The comparison of the reliability of the science and mathematics tests before and after elimination of DIF of variables of gender groups.

Group	Test	Type of test	Number item	$R^2$
Gender	Science	Before cutting out DIF	50	0.85
		After cutting out DIF	38	0.77
	Math	Before cutting out DIF	50	0.63
		After cutting out DIF	31	0.53

5. The analysis of relationship between the position of sum score of the examinees of the science and mathematics test before and after elimination of differential item functioning (DIF), as analyzed by Spearman rank correlation coefficient, revealed that the total scores of the test before and after elimination of differential item

functioning (DIF) were positively related at the significant level of 0.05. The science test's value from Spearman rank correlation coefficient was between 0.75 – 0.98 and the mathematics was between 0.65 – 0.95. It can be concluded that the more elimination of differential item functioning (DIF) is, the more different the total scores before and after elimination will be. Thus, elimination of differential item functioning (DIF) could provide the fairness to the examiners, without considering the differences between gender.

Table 4. The analysis of relationship between examiners' total scores of the science and mathematics test before and after elimination of DIF

Group	Test	Type of test	Spearman rank correlation coefficient
Gender	Science	Before cutting out DIF	0.93*
		After cutting out DIF	
	Math	Before cutting out DIF	0.87*
		After cutting out DIF	

\* p < .05

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## Education V

10:30-12:00, December 16, 2012(Room 1)

**Session Chair:** *Margaret Mun-Yee Cheung*

**278: Quality of Cross Border Higher Education in Sri Lanka: An Investigation into the Quality of the Foreign Degree Awarding Institutes of Sri Lanka**

*Mihirini Wickramasinghe*

*University of Auckland*

*John Hope*

*University of Auckland*

*Eve Coxon*

*University of Auckland*

**285: Do You Hear the Broken Hearts? An Applied Theatre Doctoral Research Plan on the Hong Kong Chinese Cancer Caregiving Experience**

*Margaret Mun-Yee Cheung*

*Queensland University of Technology*

**307: Item Length and Linguistic Mantel-Haenszel Differential Item Functioning in Elementary Algebra Test**

*Reymond Anthony Maramot Quan*

*Philippine Normal Univrsity*

**367: Instruction Management of Business English Course at Thai-University Level Prior to the Upcoming ASEAN Economic Community**

*Krich Rajprasit*

*Srinakharinwirot University*

*Panadda Pratoomrat*

*Srinakharinwirot University*

**116: Development of the Program Evaluation Scale for the Pedagogic Formation Certificate Program Carried Out in Turkey**

*Oktay Cem Adiguzel*

*Oktay Cem Adiguzel*

**96: Shapers of Their Destiny: A History of the Education of Cuban Children in the United States Since 1959**

*Guadalupe San Miguel Jr*

*University of Houston*

**Quality of cross border higher education in Sri Lanka:  
An investigation into the quality of the foreign degree  
awarding institutes of Sri Lanka**

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**ABSTRACT**

This research investigates the quality of the foreign degree awarding institutes of Sri Lanka. There are three main objectives of this study. The first is to identify the main priorities for quality in relation to the foreign degree awarding institutes of Sri Lanka. The second is to explore how the foreign degree awarding institutes of Sri Lanka implement and maintain the quality priorities in their institutes. The last main objective is to explore the difficulties that these institutes face when implementing and maintaining quality in their institutions.

Keywords: Quality, Cross Border Higher Education, Foreign degrees, Sri Lanka.

**1. INTRODUCTION**

Sri Lanka, being a South Asian developing country, needs to overcome many challenges in higher education in order to survive in a global knowledge economy. These challenges include increasing access to higher education and also to maintain the quality and the relevance of higher education in Sri Lanka. The government finds it difficult to expand public university education or increase access to universities due to fiscal constraints, including the huge amount of money for those students' education in terms of resources and their living expenses. Undergraduate studies in public universities are currently free of charge and most of the students' expenses will be covered through different kinds of state financial assistance.

This added fiscal responsibility also reduces the number of students who can enter to public universities and according to Stephen (2007), even though approximately 150,000 students qualify to enter a public university out of the total of 250,000 students who sit for the G.C.E (A.L) examination in a year, the universities in Sri Lanka can cater only for 14,000 students. Sri Lanka also had to spend more than 5% of the Gross Domestic Product (GDP) for the war with terrorists in the North and East of Sri Lanka for several years (Warnapala, 1998) and since the government also will have to spend a significant amount of money for the reconstruction of those areas

there is a need for alternative education institutes.

Furthermore, Sri Lanka is educationally challenged since most of the university programmes in Sri Lanka do not meet global and employer requirements (Tharmaseelan, 2007). There are also concerns about the influence of political parties in student affairs and safety of the student at public universities since there is violence, unrest and a practice of ‘ragging’ in the campus. The public universities are forced to close regularly due to strikes and this lengthens the time it takes for students to complete a degree. Some parents are unwilling to send their children to public universities due to this unpleasant environment in public universities.

Considering the main difficulties that the public universities and the government face it is necessary to have alternative education institutes. Presently, there are five types of alternative education institutes to public universities as shown in the table 1. The share of external degrees mentioned in the table does not cover the foreign degrees and it covers only the degrees that the students follow by registering in a public university in Sri Lanka as external students.

Table 1: Higher Education Enrolments by Type of Institution and Mode of Delivery, 2006/2007(World Bank, 2009, p. 5)

	<b>Enrolment Number</b>	<b>Share of Enrolments %</b>
Public Universities	73,491	19
Open University	28,569	7
Postgraduate and Other Institutes	9,015	2
External Degrees	225,208	58
SLIATE (Sri Lanka Institute for Advanced Technological Education)	8,135	2
Private Higher Education Institutions	45,700	12
Total	390,118	100

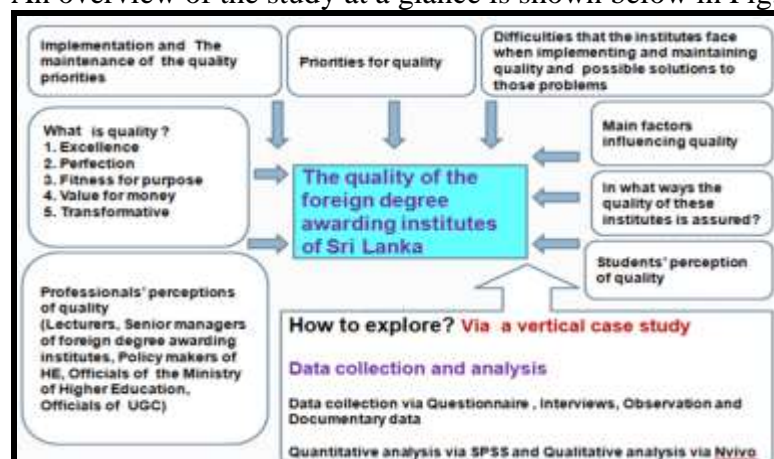
The private higher education institutes which make up 12% of higher education enrolments are mainly the foreign degree awarding institutes and they appear to be increasingly important in overcoming many challenges of higher education. A World Bank report (2009) highlights that these institutes absorb many qualified high school graduates who can not enter a public university in Sri Lanka. It is also stated that these institutes provide courses which are more relevant to the job market and graduates of these institutes have better command of English language and well developed soft skills (World Bank, 2009). However, there is negative publicity about private institutes which provide low quality services and this can have an impact on the student recruitments in the sector as a whole (World Bank, 2009). Also there is strong ideological opposition to the establishment of private universities (World Bank, 2009) which provide foreign degree programs and being a Sri Lankan, I have seen that their quality is one of the factors that the opponents raise. It is necessary for the foreign degree awarding institutes to understand the quality issues and tackle those problems for their survival. Unfortunately, there is no quality assurance process from the government for the private sector institutions of Sri Lanka (World Bank, 2009) and also there is very limited research on the quality of the foreign degree

awarding institutes of Sri Lanka. Therefore there is a strong need for research that explores the quality of these foreign degree awarding institutes, as this may assist the institutes to understand their quality issues as well as the public will understand the real quality situation of these institutes. The three main research questions that this study attempts to explore are as follows.

1. What are the main priorities for quality in relation to the foreign degree awarding institutes of Sri Lanka?
2. In what ways do the foreign degree awarding institutes of Sri Lanka implement and maintain the quality priorities in their institutes?
3. What are the difficulties that these institutes face when implementing and maintaining quality in their institutes and what are the possible solutions to those problems?

It is necessary to identify the meaning of quality in order to understand the quality issues in relation to the foreign degree awarding institutes of Sri Lanka. Therefore, this research also investigates the meaning of quality from the perspectives of different stakeholders of the foreign degree awarding institutes. These different stakeholders include lecturers, students and senior managers of the foreign degree awarding institutes, the officials of the University Grants Commission, the officials of the Ministry of Higher Education and the policy makers in higher education. Watty (2006) points out that ‘the stakeholder approach’ is an important approach in defining quality of higher education. This approach recognizes the potential for a number of different perspectives of quality to be defined in the higher education environment. These perspectives reflect the views of a variety of stakeholders who, it is claimed, have legitimate authority to voice their perspectives (Vroeijenstijn, 1990, 1992; Middlehurst, 1992, cited in Watty, 2006, p. 292). This study utilizes this approach to quality.

An overview of the study at a glance is shown below in Fig.1.



## 2. LITERATURE REVIEW

### 2.1 Definitions of Quality in Higher education

Many researchers (Abukari & Corner, 2010; Ehsan, 2004; Green, 1994; Ntshoe, Higgs, Wolhuter, & Higgs, 2010) highlight quality as an elusive concept and according to Stensaker and Harvey (2011, p. 223) “quality is usually a highly contested phenomenon within the sector with heated debates occurring as to what quality is”. Harvey & Green (1993) discuss five different concepts of quality which are in use as:



### *Exceptional*

This idea of quality takes quality as something special. There are three variations to this. First is the traditional notion of quality which considers quality as distinctive. Second is the view which identifies quality as going beyond very high standards, representing excellence. The third view of quality is a weaker notion of exceptional quality. This is about passing a set of required or minimum standards.

### *Perfection (or consistency)*

Consistency is the second approach to quality and this is mainly about zero defects and getting things right first time. This approach focuses on process and it sets requirements which it aims to meet perfectly.

### *Fitness for purpose*

This approach suggests that quality only has meaning in relation to the purpose of the product or service (Ball, 1985b; Reynolds, 1986; HMI, 1989a,b; Crawford, 1991a, cited in Harvey & Green, 1993). Quality is thus judged in terms of the extent to which the product or service fits its purpose (Harvey & Green, 1993, p.11).

### *Value for money*

According to this notion quality equates with value and views value as value for money (Ball, 1985a, cited in Harvey & Green, 1993). Providing quality products at economic prices or providing quality at a price you can afford indicates a high standard specification at reduced cost (Schrock & Lefevre, 1988, cited in Harvey & Green, 1993).

### *Transformative*

This view focuses on 'qualitative change'. That is a fundamental change of the form. Education is not considered as a service for a customer but as an ongoing process of transformation of the participant. This links with two ideas of transformative quality in education. They are the enhancement and the empowerment of the consumer. Quality may mean different things to different people. This study attempted to understand the meaning of quality from the students' perspective since it is necessary to understand what they mean by quality in order to discuss quality issues from their perspective.

## **2.2 Priorities for quality**

The main and the most important quality criteria in relation to the foreign degree awarding institutes can be identified as the priorities for quality for these institutes. This study intends to explore these priorities via a data collection since these priorities for quality in relation to the foreign degree awarding institutes have not been recognized in previous studies.

Quality Assurance and Accreditation Council of Sri Lanka (QAA) utilize eight aspects for the review of each institution and each program (Stella, 2007). Institutional aspects are: University goals and corporate planning, Financial resources and management, Research, Quality management and administration, Quality assurance, Learning resources and student support, External degree programs and University/Industry/Community/Other extension activities. Program aspects are: Curriculum design, content and review, Teaching, learning and assessment methods, Quality of students, including student progress and achievement, The extent of student feedback qualitative and quantitative, Postgraduate studies, Peer observation, Skills development and Academic guidance and counseling (Stella, 2007, p.30).

### **2.3 Some quality issues of the foreign degree awarding institutes and some identified solutions**

The document ‘Students taken for a ride: Sri Lankan example’ written by Peiris & Ratnasekera (not dated) of the Quality Assurance and Accreditation Council of University Grants Commission of Sri Lanka highlights some important quality aspects related to the private institutes which award foreign degrees in Sri Lanka. Peiris & Ratnasekera (not dated) point out how some foreign degree awarding institutes provide poor quality education to students and thereby ruin the lives of students. “Even in the case of actual foreign university affiliations, the poor quality education provided results in many students failing examinations and finally abandoning the courses after paying a large sum of money (Peiris & Ratnasekera, not dated)”. Peiris & Ratnasekera (not dated) also provide some suggestions to improve the quality of the foreign degree awarding institutes. These suggestions are:

1. Establishment of legislation for private higher education of Sri Lanka and this mainly involves registration, licensing and accreditation.
2. An amendment to the present Universities Act in order to allow the QAA Council to conduct external quality assessments and accreditation of private HEIs.

A survey conducted by the Quality Assurance and Accreditation (QAA) Council of the University Grants Commission (UGC) highlights that more than fifty companies are employed in the ‘business education’ (Peiris & Ratnasekera, not dated). However, according to this document it is difficult to estimate the number of institutions which are actually registered with the registrar of companies as providing educational services since most of these companies are registered under different categories (Peiris & Ratnasekera, not dated). These quality issues that the literature suggests imply the need for more research to investigate the quality issues in depth.

### **3. METHODOLOGY**

This study employs a vertical case study to investigate the research questions. Vavrus & Bartlett (2006, p. 96) identify the vertical case study as “a means of comparing knowledge claims among actors with different social locations in a vertically-bounded analysis”. They argue that the micro level can be understood better in relation to larger structures, policies and forces. According to Vavrus & Bartlett (2009) the goal of a vertical case study is to develop a deep understanding of the particular at each level and analyzing in what ways these understandings generate similar and different explanations of the problem, policy, or phenomenon under study.

The quality of the foreign degree awarding institutes needs to be understood in relation to the multiple layers such as institutional level, national level and cross border or international level. Since the vertical case study allows me to compare among levels mentioned above, I can obtain a holistic view of the quality of the foreign degree awarding institutes. I will be able to understand the quality phenomenon in relation to cultural, social, political and economic aspects in an institutional, national and global arena.

This research works within a pragmatic paradigm. Pragmatism perceives both quantitative and qualitative methods as necessary in order to answer the research questions in full. It focuses mainly on research needs rather than the researcher’s preferences (Cohen et al., 2011) arguing that “methodological Puritanism should give way to methodological pragmatism in answering research questions” (Leech, 2005a:

377 cited in Cohen et al., 2011). Pragmatism provides a pluralist and eclectic approach to research in terms of methodology. It adopts fitness for purpose and applicability while regarding reality as both objective and socially constructed (Cohen et al., 2011; Johnson & Onwuegbuzie, 2004). According to pragmatism ‘what works’ to answer the research questions is the most useful approach to the investigation (Cohen et al., 2011). It focuses on the solutions to practical problems in the practical world thus it provides real answers to real questions. This on-going main study intends to gather data via questionnaires, semi structured interviews, documentary data and observations within five foreign degree awarding institutes. These institutes will include institutes which are approved by the University Grants Commission of Sri Lanka as well as institutes which are not approved by the University Grants Commission of Sri Lanka. It is intended to complete the data collection in January 2013 by using the methods and the samples mentioned in the table 2 below.

Table 2: Main Methods and Samples for Data Collection

	Method of data collection & number of participants			
	<i>Interviews</i>	<i>Questionnaire</i>	<i>Observation</i>	<i>Documentary data</i>
Senior managers	10	40		
Lecturers	10	100		
Students	15	300		
Marketing counselors			5	
Prospective students			5	
UGC officials	3	20		
Officials of the Ministry of Higher Education	3	20		
Policy makers	3	20		

The data collection will begin with a questionnaire survey. The questionnaires will be used since they are economical and can reach a large sample within a short period of time (Thakur, 2005). The questionnaires include open ended questions as well as closed questions. The sample targeted for the questionnaires will be selected randomly since everyone in the population should get a chance to be selected for the sample. Interviews will also be utilised since interviews allow greater depth than the other methods (Cohen et al., 2011) and the interviewer can build rapport with the interviewees. The interviews will be semi structured since the interviews will also be used to check the accuracy to the responses of the questionnaires and to clarify any doubts arrived from the questionnaire by asking similar questions asked in the questionnaires.

Purposive sampling will be employed to select the prospective participants of the interviews. The senior managers for the interviews will be selected considering factors such as their job designation, experience in the field and gender. The lecturers will be selected based on factors such as their level of qualifications, work experience in the field and the degree programs they teach. Students should represent factors such as different degree programs, different age groups and different ethnicity. The officials of the government organizations will be selected based on factors such as their job

designation, gender and level of qualifications. Five marketing counselors and five prospective students will be observed during an education exhibition setting in order to understand how the marketing counselors promote their degree programs and what kind of questions the students raise in relation to degree programs and these institutes. The Marketing counselors will be selected purposively based on their availability for the intended exhibition, their level of experience and their achievements of student recruitment targets. The prospective students will be selected based on their availability at the time of the observations.

Documents such as policies of institutes, minutes of meetings, advertisements published by institutes in relation to degree programs and Vision and mission statements of the institutes will be requested from the institutes. Documents such as policies and guidelines related to higher education and press releases in relation to quality of these institutes will be requested from the government organization. These documents can provide an understanding of how quality and quality issues are addressed in writing.

#### **4. DATA ANALYSIS**

This study employs a mix of quantitative and qualitative approaches to data analysis by using both SPSS and Nvivo data analysis computer software packages. The data obtained from different methods will be triangulated in order to confirm the validity and the reliability of the data. It is intended to identify from the findings how different stakeholders view quality and quality issues in relation to the foreign degree awarding institutes of Sri Lanka and how the foreign degree awarding institutes can tackle the different stakeholders' different perceptions of quality and its implementation. The findings will also help the researcher to understand the meaning of quality and the priorities of quality in relation to these institutes. The findings will also contribute to new knowledge since this area is quite new to research and also no single research evidence could be found which explores quality of these institutes from all these stakeholders' perspectives.

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**Do you hear the broken hearts?  
An applied theatre doctoral research plan on the Hong Kong Chinese  
cancer caregiving experience**

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**ABSTRACT**

Cancer is the number one cause of death in Hong Kong and a taboo subject for the Chinese community. Cultural tradition of non-disclosure, piety and self-sacrifice add stress to cancer caregivers, whose burden is increased by a lack confidence and knowledge. This article presents a doctoral research plan exploring the Hong Kong Chinese cancer caregiving experience using applied theatre for data collection and ethnodrama for dissemination.

Keywords: cancer, caregiver, ethnodrama, theatre, Chinese

**1. INTRODUCTION**

*Zoe: I wanted to call and let you know... I got a mammogram recently, and they found a lump. It's malignant. But they say it's only stage one. I'm going for surgery next week. I'm not in any pain. I guess the pain will start after surgery. Right now, I'm scheduled for a lumpectomy. But once they get inside... you never know. Can you tell mom for me? Maybe we shouldn't tell her. Maybe I can tell her after the surgery.*

*Joanna: My oldest sister, Judy died in Toronto of breast cancer. We never told our mom. We just couldn't do it. Then my second sister Carrie was diagnosed with cervical cancer. I knew I should have gone for a check up right away but I procrastinated for six months. Sure enough, they found the same kind of tumour in my cervix. I had a hysterectomy. Got rid of the whole damn thing. They put me through chemo... to be safe. My mother... well, she lives with me so we told her about my illness a little bit at a time. We didn't exactly tell her about Carrie. But since she's seen me get sick with chemo, lose my hair... I think she put the two and two together. She still doesn't know that Judy passed away. She's so old. I didn't want her to come visit me in the hospital but... it gave her something to do, somewhere to go everyday. Carrie's doing well, though. She went back to work. She already used up her annual leave. You know, it's brought us closer together, having the same cancer and treatment.*

*Cathy: My mother was diagnosed with breast cancer a year ago. She had surgery and chemo. Don't worry. She's fine now. The worst part was being in Hong Kong by myself. My sister came back from Maryland but... with her two kids, she really couldn't help me much. The worst was dad. He just didn't know what to do. Mom didn't want him around. She was weird about having dad around because... she was shy about the breast thing... You know, she's old fashioned and didn't want him to know anything. Dad didn't know how to help. So we just sent him out to get food. Yea, mom just didn't want the men around. My brother wanted to come back from Vancouver but I told him not to bother. So it was mostly just me. It was hard.*

## **2. PROJECT BACKGROUND**

Cancer stories... Have we not all heard them by now? This doctoral research project was conceived as a result of several observations in Hong Kong: the increase in cancer incidents and death, cancer misconception and stigma, a lack of systematic support for cancer caregivers and Chinese cultural and psychological attitudes.

### **2.1 Chinese Cultural and Psychological Attitudes**

Confucian beliefs run deep in the Hong Kong Chinese people. Concepts of filial piety, duty and respect to the family in a collectivistic society mean that members of the community are highly interdependent (Bond, 1991). Social harmony is preserved at all cost, and lying and deception are acceptable measures for this purpose. Heavy emphasis is placed on self-sacrifice, tolerance and endurance when it comes to taking care of family members. When caring for the terminally ill, achieving a “peaceful death” (Mok, Chan, Chan, & Yeung, 2003, p. 274) is of the utmost concern. Believing it would be emotionally upsetting for others, Chinese people avoid discussion about caregiving stress (Simpson, 2005). Additionally, Chinese families are close-knit and do not share information outside of the family, especially bad news. Because of the need to preserve ‘face’, asking for help is a sign of weakness (Bond, 1991; Chan & Chang, 1999a; Mok, et al., 2003). As a result, caregivers for terminally ill family members endure much burden.

### **2.2 About the Hong Kong Cancer Caregiver**

A caregiver is a lay person who provides physical and emotional needs to someone who cannot take care of him/herself (Scherbring, 2002). Caregiver burden was first described in the west as the “physical, psychological or emotional, social and financial problems... experienced by family member for [the] impaired” (George & Gwyther, 1986, p. 253). Informal caregivers in Hong Kong have been described to experience depression, stress, fatigue, anger and guilt. Their needs include confidence in dealing with sick family members, information and experience on how to give care, and personal time to address their own needs. In spite of the acknowledgement of the Hong Kong caregiver experience (Chan & Chang, 1999a, 1999b; Loke, Liu, & Szeto, 2003; Mok, et al., 2003), presently there is little systematic emotional support for informal caregivers (Chan & Chang, 1999a; Loke, et al., 2003; Mok, et al., 2003). The solutions suggested in addressing the needs of cancer caregivers still depend heavily on the nursing sector (Loke, et al., 2003; Mok, et al., 2003). The question then becomes how effective is this support when the level of responsibilities nurses carry is already overwhelming? Given that cancer caregiving can be long-term, how do caregivers manage their burden when professional support is so limited?

### **2.3 Cancer in Hong Kong**

General knowledge about cancer prevention, risk factors and screening in Hong Kong is still limited. There is much stigma and misconception around cancer screening: for example, cervical examination is an indication of promiscuity, and lung cancer only affects smokers (Chua, Mok, Kwan, Yeo, & Zee, 2005; Yan, 2009). In a city where the leading cause of death in 2009 is cancer – 33.6% for men and 28.4% for women (Hong Kong Department of Health, 2012) – and new cases increasing by 26.6% from 1999 to 2009 (Hong Kong Hospital Authority, 2009), there is a need for cancer information dissemination as well as emotional support for the cancer caregiver.

### **3. CONTEXTUAL SCAN**

#### **3.1 Healthcare Dramas Around the World**

Over the past decade, the healthcare sector has increased the use of drama in its practice and research (Boydell, Gladstone, Volpe, Allemang, & Stasiulis, 2012; Fraser & al Sayah, 2011; Keen & Todres, 2006, 2007; Rossiter et al., 2008; South, 2004). Psychologists, social scientists, nurses, healthcare workers and even theatre practitioners have employed drama strategies in many healthcare related areas such as dementia, brain trauma, cancer, HIV/AIDs, mental illness, workplace injury, and alcoholism. Healthcare dramas targeted at the patients, healthcare professionals and the communities are used for education, data collection, data analysis, dissemination, knowledge transfer, policy development, data presentation and meaning finding. The use of drama in cancer-specific research appears to be in its infancy, with most of the cancer dramas generated from Canada and US. Research employing drama strategies presented in the literature are mostly performed by medical or healthcare professionals. Applied theatre practitioners who perform drama work in community cancer-related projects may not publish so it is difficult to ascertain the extent of their use of drama with healthcare focus.

#### **3.2 The Emergence of Psychodrama and Drama Therapy in Hong Kong**

The use of drama with a healthcare focus is a new venture in Hong Kong. A search on the Internet reveals some use of drama in Hong Kong for enhanced wellbeing in the form of psychodrama and drama therapy. The Centre on Behavioral Health (CBH) of the University of Hong Kong (2010) provides “a holistic approach for the promotion and betterment of mental, emotional and behavioral welfare of the community”, by providing “psychological, emotional and behavioral issues arising from physical disorders and disabilities; and personal, relationship and family difficulties”. CBH holds workshops with creative arts focus, such as drama and dance therapy. The Hong Kong Centre for Psychodrama and Drama Therapy (CPD) (n.d.) was established in 2010 with an aim to promote mental well-being using psychodrama, drama therapy and applied drama interventions. Its focus is on personal growth and quality of life. According to CPD’s website, it uses creative action methods as psychodrama “engages participants holistically, paying attention to behaviour, thoughts, emotion and the body”. The Chinese University of Hong Kong Department of Social Work (2011) offers continuing professional programs that employ psychodrama, expressive arts and play methodologies. The issues targeted include single parenting, social work practice, difficult behavior, and child-centered play.

These organizations advocate improving the mental, psychosocial and emotional wellbeing of the individual through therapy enhanced by creative arts approaches. However, all are person-centered practices with no performance component. There seems to be a gap between person-centered approaches and enhancement for the community’s wellbeing as a whole through widespread dissemination, pursuing social changes and awareness building. Applied theatre may be well suited to fill this gap; however, clear distinction should be made between applied theatre and drama therapy methodologies, where the two overlap, compliment and conflict with each other.

### **4. SIGNIFICANCE OF THE RESEARCH**

This research endeavours to support the precarious relationship between healthcare professionals and informal caregivers by offering emotional support and an avenue for expression and discovery for the latter group. Because of its distancing, empathetic and empowering effect, drama is used to approach difficult issues (O’Toole & Lepp, 2000)



such as pain, suffering, loss and death in cancer care. Research participants would be able to reinterpret their experiences through drama and gain new insight into their own lived experiences. For the Hong Kong community, this research is a pilot project that culminates in the development of a healthcare-focused ethnodrama to be created and put into service. Given that the use of drama intervention in the healthcare sector in Hong Kong is very limited, the use of applied theatre methodologies targeted at the community's emotional and physical wellbeing as a whole by providing widespread dissemination, pursuing social changes and awareness building is an approach demonstrating originality in both the healthcare and applied theatre sectors.

## 5. RESEARCH QUESTIONS

This research asks two main questions: **how does drama strategies help Hong Kong cancer caregivers deal with taking care of their family or friends who are stricken with cancer?** This is an exploration of the processes at play when applied theatre is used in the community for empowerment and emancipation purposes; and, **what can we learn from cancer caregivers and other stakeholders through their storytelling that will benefit future caregivers?** This is an exploration of the community and the relationship between all stakeholders – cancer patients/survivors, cancer caregivers, nurses, doctors, counsellors, social workers, cancer-related organization workers and volunteers – for educational and open exchange purposes.

## 6. THEORETICAL FRAMEWORK

This research project employs applied theatre to bridge the gap between cancer caregivers and healthcare professionals by using drama to provide a platform for open dialogue, discovery, emancipation and empowerment for the participants. Thus the research design adopts the theories of constructivism, ethnography, applied theatre and performance ethnography.

### 6.1 Constructivism, Ethnography and Applied Theatre

According to **constructivist** theory of learning, knowledge making is active, created by doing rather than being (Creswell, 2007). This 'doing' creates experiences that include patterns and concepts that produce meaning, which is modified when new experiences are encountered. Research participants are encouraged to discuss, communicate and exchange ideas in order to construct meaning with those who share beliefs, practices, and language. Thus a community of people not only shares knowledge, but meaning-making processes that are contextual within the world in which they live (Burr, 2003; Creswell, 2009; Schwandt, 2001).

**Ethnography** is an exploration of the nature of social phenomenon in an unstructured environment distinguished by three characteristics: immersion, participation-observation, and description (Creswell, 2007). Ethnographers immerse themselves in the field of study for a lengthy period of time in order to understand those being studied. This immersion allows the researcher to be embedded into the daily lives of the participants and their community, in order to describe and interpret the behavior, values, beliefs and language of the culture-sharing community. Researchers provide "thick description" (Geertz, 1973) of the community by employing participant observation through an extended period of time.

Schwandt defines "thick description" as an interpretation of the social action, the recording of "the circumstances, meanings, intentions, strategies, motivations, and so on that characterize a particular episode... [an] interpretive characteristic of

description” (2001, p. 255). Ponterotto’s (2006) working definition of “thick description” is to describe and interpret observed social action within a particular context; capture the thoughts and feelings of the research participants in a complex web of relationships within the field; provide “thick interpretation” from the “thick description”, which leads to “thick meaning” (p. 543) for the readers; and lead the readers towards a sense of authenticity and truth through reading so they may become empathetic towards the research participants. The definitions of “thick description” here are in line with the constructivistic orientation of this research project, one of discovery, exploration, meaning making and description of the cancer caregiver experiences, with the results culminating in a wide dissemination by ethnodrama that is the outcome of reading, observation, and interpretation.

**Applied theatre** is an art form that “assist[s] in reconstructing [the participants’] identities”, where mutual support and “opportunities are provided for groups to voice who they are and what they aspire to become... a medium through which storytellers can step into the perspectives of others and gain entry points to different worldviews” (Taylor, 2003, p. xviii). It offers opportunities for participants to “grapple with an issue, event, or question of immediate public and personal concern... [a] transformative agent that places the audience or participants in direct and immediate situations where they can witness, confront and deconstruct aspects of their own and others actions [by] raising awareness about how we are situated in this world and what we as individuals and as communities might do to make the world a better place” (p. xx) It heightens consciousness by raising awareness, forming questions, posing alternatives, challenging contemporary discourses, voicing the views of the silent and marginal, and generate emancipatory and cathartic experiences.

## **6.2 Performance Ethnography and Ethnodrama**

Dramatic presentations combining political, critical and advocacy to discuss lived experiences gave rise to **performance ethnography** that shows culture and research results by portraying cultural action and social interaction that depicts everyday lives and materiality (Tedlock, 2005). This is an effective tool as plays can communicate deep emotional content that engages the audience deeply. Performance ethnography embraces participant and audience feedback for detail checking, refinement and authenticity, which can achieve democratization and serve the participants by producing cathartic effect. Conquergood believes that, in performance, we are a “culture-inventing, social-performing, self-making and self-transforming creature” who “struggle[s] for meaning”, emphasizing that the performance paradigm honors “participatory, dynamic, intimate, precarious, embodied experience grounded in historical process” (1991, p. 187) that insists on interactionist, face-to-face encounters.

The term “**ethnodrama**” was popularized probably by Mienczakowski (1995) and Saldaña (1998) as a form of “ethnographic performance text”, a “written script [that] consists of dramatized, significant selections of narrative collected through interviews, participant observation field notes, journal entries and/or print and media artifacts... this is dramatizing the data” (Saldaña, 2005, pp. 1-2). For Mienczakowski, ethnodrama is “a form of public-voice ethnography that has emancipatory and educational potential”, that demanded extensive validation processes, interactionist data-gathering techniques, reflective performance processes, and consensual processes for both the participants and audience (1995, p. 365). As a result, ethnodrama is an interactionistic and empathetic engagement that provides authentic accounts in presentation, not discourse. It is rigorously validated by the informants, producing emancipation, education, advocacy, and reflexivity, and is meant to be consumed by the general public as well as academia.

## 7. RESEARCH DESIGN

This project, consisting of two projects, will take place entirely in Hong Kong. Project 1 (October 2012 to September 2013) uses applied theatre methodology as well as conventional data collection methods to examine and describe the experience of the Hong Kong Chinese cancer caregiver through their own storytelling. The purpose of gathering these stories is to bring cancer caregiving issues to light through an ethnodrama performance in Project 2 (October 2013 to September 2014) for open discussion, awareness building and educational purposes.

### 7.1 Data Collection and Analysis

**Project 1** employs three types of data collection methods: **interviews, focus groups and drama workshops**. Data will be gathered from cancer survivors/patients, cancer caregivers, doctors, nurses, psychologists, social workers, cancer charity organization workers and volunteers. All categories of research participants will be involved in interviews. Only cancer caregivers will be involved in focus groups and drama workshops. The purpose of the drama workshops is to collect data and introduce drama to those participants who wish to perform in the ethnodrama. The research participants will probably be unaccustomed to free expression. The immersive property of ethnography and interactive nature of drama workshops will serve to build rapport, trust and understanding for open dialogue and data collection.

Different research activities will focus on different aspects of the research. One-on-one interviews will focus on personal in-depth anecdotal information, while focus groups will focus on overall sentiment and themes of the topic. Drama workshops will focus on personal stories, emotional and imaginary aspects of the topic with opportunities for empowerment, enlightenment and emancipation. Artefacts or journal entries will focus on sharing, personal stories, interpretation and meaning-making. Each activity will inform the other as a means of triangulation. The data collected will undergo a review for keywords, patterns, correlations and categorization. Coding analysis will determine topics and themes to be explored for the ethnodrama performance in Project 2. Nvivo will be used to analyse unstructured data.

### 7.2 Data Dissemination

**Project 2** consists of the **workshopping, rehearsal and performance of the ethnodrama**. Research participants previously involved in Project 1 will be encouraged to participate, although more experienced actors may be recruited to join the performance. In order to adhere to Mienzakowski's rigorous validation, the ethnodrama will undergo two preview performances open only to research participants for fact checking before a third performance is open to the general public. During the open performance, post-performance discussion between the audience, performers and creators will offer open dialogue and sharing. Post-performance interviews with the performers will also ascertain the effects of drama on the participants, their translation of personal experiences, insight and transformation of life views.

## 8. CONCLUSION

This research project will explore the plight of a marginalized and silent community using ethnography and constructivist approach to study the beliefs, stories, value system, relationships and interaction of the participants, and using ethnodrama to allow their voices to speak and describe the richness (and thickness) of their lived experiences. In the process, the participants will interpret and gain insight into their own experiences and inform others through performative presentation. This chosen methodology to

explore Hong Kong Chinese cancer caregivers makes sense. The research in this particular area is very limited; participants in this community deserve to have their agendas met and individual and collective voices heard. As an educational, awareness building, social changing and learning tool, ethnodrama enables the researcher to be a “story-reteller” (Saldaña, 1999, p. 63) and bring forth insight, interpretation, understanding, interaction and change. The challenge will be in the balancing the tension of the relationship between researcher, participants and audience expectations and still deliver an exposé that does the stakeholders as well as the art form justice.

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## Item length and linguistic mantel-haenszel differential item functioning in elementary algebra test

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### ABSTRACT

One of the primary issues concerning current large-scale and national educational assessment is constructing a fair and valid assessment of subject-relevant skills for learners who have different levels of English proficiency. According to the recent National Achievement Test for academic year 2010-2011, Mathematics and English mean percentage scores (MPS) of Philippine secondary school learners were 42.00% and 46.45%, respectively. The use of testing for high-stakes decisions and national achievement exams presumes that learners' test scores reflect a particular content mastery, such as Mathematics, in an accurate and valid perspective. However, this presupposition can be possibly flawed because of the different English competencies of learners. Using Mantel-Haenszel (D-MH) procedure for differential item functioning (DIF) method, this study aimed to explore the differential performances of algebra items used to test secondary school freshmen's proficiency in Mathematics, specifically, in terms of the English proficiency of students. In this cross-cultural and correlational quasi-experimental study, the DIF estimates of secondary school freshmen low- and high-English achievers were compared for Algebra items of varying item length. In the preliminary stage of the study, content validity of the test items was done through construction of table of specifications and item analysis through item discrimination and difficulty indices. From a revised test considering item analysis, a DIF procedure was done using the Mantel-Haenszel (D-MH) computation. Considering the DIF flagged items, Pearson correlation procedure was used to investigate test item length and DIF measure of each test item. The sample for item analysis consisted of an intact group of 50 first year secondary school students from a private non-sectarian school. For the DIF analysis, the sample comprised 200 freshmen secondary school students who came from 5 intact groups of the same school. This study analyzed an Elementary Algebra 75-item multiple choice test that focused on three major topics from its curriculum and classified in terms of its cognitive domain. From the analysis of findings, it was found that the data is insufficient to reject the null hypotheses that there were no significant differences in proportions attaining a correct response across total score categories and item length had no significant correlation with DIF value, in terms of English proficiency. These were based from the  $MH\chi^2$  values obtained which were all less than its critical value at 0.05 significance level. However, there were test items that were flagged as either high or suspicious in terms of its source of item bias.

Keywords: Assessment, item analysis, item bias, mathematics, algebra

## 1. INTRODUCTION

### 1.1 Background of the Study

One of the primary issues concerning current large-scale and national educational assessment is on constructing a fair and valid assessment of subject-relevant skills for

learners who have different levels of English proficiency. According to the recent National Achievement Test (NAT) for academic year 2010-2011, Math and English mean percentage scores (MPS) of secondary school learners 42.00% and 46.45%, respectively (NAT is an annual national examination given by the Department of Education of the Philippines to Second Year high school students.). This decreasing English competency of secondary school learners implies a pressing challenge to schools not only in developing instructional materials but also in interpreting assessment results especially in preparation for high-stakes government exams such as the NAT. The use of testing for high-stakes decisions and national achievement exams presumes that learners' test scores reflect a particular content mastery, such as Mathematics, in an accurate and valid perspective. However, this presupposition can be possibly flawed because of the different English competencies of learners. From the 2000 National Research Council report statement, "a test [of proficiency in a content area] cannot provide valid information about a student's knowledge or skills if a language barrier prevents the students from demonstrating what they know and can do" . Suggestions from this report indicate that assessments for subjects such as Math are potentially biased in identifying subject mastery because of items with unnecessary linguistic complexity (Abedi, 2004). An implication for this is the need to differentiate language proficiency of learners from their specific subject-based knowledge (Abedi, 2004). There is an outright challenge of attaining this intention because all assessment that are administered in the English language are also measuring the learners' English proficiency (August & Hakuta, 1997; National Research Council, 2000). Using Mantel-Haenszel (D-MH) procedure (Mantel & Haenszel, 1959) for differential item functioning (DIF) method, it will explain the relationship between nonmathematical linguistic complexity (in terms of the number of words used in a test item) of Algebra problems and the differential performance of learners, in terms of their English proficiency levels.

## **1.2 Statement of the Problem**

This study aimed to explore the differential performances of elementary algebra items used to test secondary school freshmen's proficiency in math critical thinking skills and content knowledge, specifically, in terms the English proficiency of students. Differential Item Functioning (DIF) is a statistical method to identify items that function differently for various groups of learners of matched abilities. Mantel-Haenszel (D-MH) approach to DIF analysis was used. Item difficulty length was compared to DIF of test items and their possible relationship was investigated. A revised achievement test was prepared after the DIF analysis. Specifically, it attempted to see if there were significant differences in proportions attaining a correct response across total score categories, in terms of English Proficiency. Also, it seeks to find if there is a significant relationship between item length and DIF items in terms of English proficiency?

## **1.3 Review of Related Literature and Studies**

Mathematics language is described as a "unified system of meaning-making" (Lemke, 2003). Success in answering Math problems involve an appropriate decoding of its elements. The students should be fluent and familiar with the natural language that the questions use. Complexity of the text and the words used will make the questions more challenging to process because misinterpretations regarding the questions will lead to incorrect answers (Mestre, 1988). Also, learners must be familiar with the subject-specific terminologies such as its specialized vocabularies and syntactic structures which are common in mathematical statements (Lemke, 2003). Moreover, there are non-linguistic math symbols that learners have to focus in terms of making sense out of these. It is expected that low achievers in English are

compromised in their comprehension of Mathematics problems if such problems are formed using complex linguistic forms, as compared to high achievers in English. A source of construct-irrelevant difficulty for low achievers in English is the excessive linguistic complexity in the natural language of Mathematics problems. These types of problem will place low English achievers with similar level of Mathematics proficiency at a disadvantage as compared to their counterpart with high English achievement (Messick, 1989). Lexical and syntactic complexities are the linguistic factors of natural language that make comprehension challenging for low achievers in English (Martiniello, 2008). A number of essential researches observed the relationship between factors of linguistic complexity and difficulty of math word problems for various types of language achievers in primary and secondary school levels (Abedi, 2004). Using the Mantel-Haenszel (Holland & Thayer, 1988) DIF analysis for the 1992 NAEP long-term trend Math test, this study seek to determine if there is significant differential functioning of items among various language learners. Findings from the study indicated that there are a number of items that show DIF against matched ability learners who are not native English speakers. These DIF flagged items are said to be remarkably influenced by language factors. Item bias is typically described in terms of differential item functioning (Ellis & Raju, 2003). It exposes the probability differences in correctly answering an item based from the subgroups, at a particular parameter level, intended to be measured (Embretson & Reise, 2000). Studies regarding DIF involve comparing test-item performance of groups in the same ability level but with different parametric characteristics, such as sex or race (Greer, 2004). If a particular test item is flagged as DIF, factors that affect can be item impact or item bias for or against as subgroup (Zumbo, 1999). A number of studies have already been identified to use M-H detection technique to compare different abilities and psychological differences of respondents (Allalouf, 2003; Duncan, 2006; Hamzeh & Johanson, 2003). In investigating item bias using differential item functioning (DIF), respondents from two subpopulations that have similar trait level are observed if they possess different expected scores on the same item. This item invariance across subpopulations can be a factor of differential total test scores or trait level assumptions per subpopulation. This results to an unfair disadvantage to a particular subgroup, and implies that DIF flagged items must be revised or removed before the entire test to be administered. A biased test item is expected to show DIF, but it does not necessarily mean that DIF flagged items are biased against a particular subpopulation. There are some other reasons than test item bias and these should also be explored. In this case, DIF flagged items are considered as “possibly biased items” or “DIF items”. There are two groups being compared for DIF detection analysis. The focal group is the subpopulation to be compared to a reference group. By controlling for a particular trait level, the performance difference between these two groups will be the basis for DIF analysis. This trait level is considered as a matching criterion for the subgroup members. This matching criterion is required to be absolutely construct-valid its measure will not be contaminated by other extraneous factors, to achieve a DIF-free test item (Shealy & Stout, 1993).

## **2. METHODOLOGY**

### **2.1 Research Design**

In this cross-cultural and correlational quasi-experimental study, the DIF estimates of secondary school freshmen low- and high-English achievers were compared for Algebra items of varying item length.

### **2.2 Research Instrument**

This study analyzed an Elementary Algebra test that focused on three major topics



from its curriculum: (a) Algebraic Expressions, (b) Linear Equations and Inequalities in One Variable, and (c) Rational Algebraic Expressions. All test items were multiple-choice (MC; 75 items scored 0-1). These test items were also classified in terms of its cognitive domain focus such as Conceptual Knowledge, Skills Application, and Analysis and Synthesis. After item analysis was done to measure its item discrimination and difficulty, a revised test was made where 30 items remained. Mantel-Haenszel (M-H) DIF procedure will be used to analyze this revised 30-item test. Item analysis is used to investigate its reliability while its content validity was verified by its table of specifications and expert evaluation.

### 23 Pilot-testing Item Analysis

In the first stage of the study, content validity of the test items were done through expert evaluation and construction of table of specifications. Item analysis procedure was also executed to measure item discrimination and difficulty indices. The sample for item analysis pilot-testing consisted of an intact group of 50 first year secondary school students from a private non-sectarian school. From the 50 respondents who answered the test, 14 high-achievers and 14 low-achievers were considered for item analysis. Achievers at this stage were obtained based from their scores from the said instrument. P-values of each member of the high group were computed, per test item. The same computations were also done for each member of the low group, per test item. Item discrimination was computed per item as the difference between the p values of the high and low group ( $item\ discrimination = p_{high} - p_{low}$ ). Item difficulty index was computed per item as the average between the p values of the high and low group ( $item\ difficulty = (p_{high} + p_{low})/2$ ). This study analyzed an Elementary Algebra test that focused on three major topics from its curriculum: (a) Algebraic Expressions, (b) Linear Equations and Inequalities in One Variable, and (c) Rational Algebraic Expressions. All test items were multiple-choice (MC; 75 items scored 0-1). These test items were also classified in terms of its cognitive domain focus such as Conceptual Knowledge, Skills Application, and Analysis and Synthesis. After item analysis was done to measure its item discrimination and difficulty, a revised test was made where 30 items remained. Item analysis was used to investigate its reliability while its content validity is verified by its table of specifications and expert evaluation.

### 24 Differential Item Functioning Analysis Procedure

From a revised test considering item discrimination and difficulty indices, DIF procedure was done using the Mantel-Haenszel (M-H) computation. Considering the DIF flagged items, a revised test questionnaire was constructed. Also, correlation procedure was used to investigate test item difficulty and DIF measure of each test item. For the DIF analysis, the sample comprised 200 freshmen secondary school students from the same school. These respondents came from 5 intact groups from the said school. The focal group included 100 students who are low-achievers in English, while the reference group included 100 students who are high-achievers in English. Mantel-Haenszel (M-H) DIF procedure was used to analyze this revised 30-item test. From the 138 respondents who answered the 30-item revised test, Mantel-Haenszel (M-H) DIF procedure will be used to compare the focal from the reference group. From their measures, test items having high DIF value were flagged as DIF item. Pearson's Product Moment Correlation coefficient was computed to investigate the possible relationship between item difficulty and DIF values. All statistical tests will be done using 0.05 level of significance.

### 3. PRESENTATION AND INTERPRETATION OF DATA

#### 3.1 Pilot-testing Item Analysis

Data utilized for the item analysis of the 75-item Elementary Algebra exam were based from the responses of 50 freshmen students who took it. The test composed of 75 items based from three subscales. The format of all these test items was multiple-choice and dichotomously scored as either correct or incorrect. From the 75 test items, 25 items were allotted for each of the three primary subscales. Also, from these 75 test items, 28 focused on conceptual knowledge, 30 on skills application, and 17 on both synthesis and analysis. Table 1 showed the topics covered by the said exam and the number of test items that focused on the enumerated topics, according to its cognitive level.

Table 1: Topics and Quantity of Test Items

Topic	Conceptual Knowledge	Skills Application	Analysis and Synthesis	Number of Items
<b>Algebraic Expressions (AE/P)</b>				
Classifying, Simplifying, and Evaluating Algebraic Expressions	2	3	3	8
Mathematical Phrases		4		4
Describing Polynomials (P)	2		2	4
Basic Operation of Polynomials	4	4	1	9
<b>Linear Equations and Inequalities in One Variable (LE/LI)</b>				
Properties of Equality	1	2		3
Mathematical Statements	2	7		9
Solving Linear Equations	2		3	5
Solving Linear Inequalities using its Properties (LI)	2		2	4
Graph and Notations of Linear Inequalities in One Variable	1	2	1	4
<b>Rational Algebraic Expressions (RAE)</b>				
Greatest Common Factor (GCF) and Least Common Multiple (LCM)	1	4	2	7
Simplifying RAE	4	1	1	6
Basic Operation for RAE	7	3	2	12
<b>Total</b>	28	30	17	75

From the 50 respondents from item analysis, 14 respondents (28%) formed the high group with a mean score of 24.43 (SD = 3.322) and another 14 respondents (28%)

formed the low group with a mean score of 14.71 (SD = 1.684). Table 2 described the achievement scores of the respondents for item analysis. From the comparison of item responses between the high and low groups, item discrimination and item difficulty indices were computed. The prepared test was revised and reduced to 30 items based from their obtained item discrimination range of 0.20 - 0.80 and item difficulty range of 0.20-0.80. In few cases, not both but either item discrimination or item difficulty was considered for the selection of items to be included in the revised exam. For example, item number 42 was included even if its item difficulty index is 0.11, because its item discrimination index is 0.21. Table 3 described some results of item analysis of the 75-item test based from the test responses of 50 freshmen students and the selection for the revised test.

	n	M	SD
High Group	14	24.43	3.322
Low Group	14	14.71	1.684

Item Number	number of correct responses form high group (N=14)	p high	number of correct responses form low group (N=14)	p low	item discrimination	item difficulty
5	10	0.71	4	0.29	0.42	0.5
7	7	0.5	2	0.14	0.36	0.32
15	9	0.64	3	0.21	0.43	0.43
16	8	0.57	5	0.36	0.21	0.47
18	8	0.57	3	0.21	0.36	0.39
22	9	0.64	5	0.36	0.28	0.5
31	5	0.36	0	0	0.36	0.18
35	7	0.5	3	0.21	0.29	0.36
37	7	0.5	4	0.29	0.21	0.4
45	7	0.5	4	0.29	0.21	0.4
46	6	0.43	1	0.07	0.36	0.25
48	7	0.5	4	0.29	0.21	0.4
49	6	0.43	0	0	0.43	0.22
64	7	0.5	2	0.14	0.36	0.32
70	8	0.57	3	0.21	0.36	0.39

### 3.2 Differential Item Functioning

Data obtained from the differential item functioning (DIF) analysis were based from the responses of 136 freshmen student respondents on the revised 30-item Elementary Algebra test. This revised test still focused on three subscales which include algebraic expressions, linear equations and inequalities in one variable and rational algebraic expressions. Also, it still focused on three different cognitive levels of conceptual knowledge, skills application, and synthesis and analysis. Table 4 showed the topics covered by the revised test and the number of test items that focused on the enumerated topics, in terms of its cognitive level.

Table 4: Table of Specifications for 30-Item Revised Test

Topic	Conceptual Knowledge	Skills Application	Analysis and Synthesis	Number of Items
Algebraic Expressions (AE/P)	2	6	1	9
Linear Equations and Inequalities in One Variable (LE/LI)	4	6	2	12
Rational Algebraic Expressions (RAE)	5	3	1	9
Total	11	15	4	30

From the 136 respondents for DIF analysis, 68 respondents (50%) formed the group of high-English achievers with a mean English card grade of 89.28 (SD=1.84) and mean Algebra exam score of 8.54 (SD= 2.46). The remaining 68 respondents (50%) formed the group of low-English achievers with a mean English card grade of 83.56 (SD=2.29) and mean Algebra exam score of 8.54 (SD= 2.33). Since the two groups of respondents were matched according to their Algebra exam scores, their mean exam scores and standard deviations were almost similar. Table 5 showed the English achievement and Algebra exam scores of the high- and low-English achievers who answered the 30-item Algebra test.

Groups	n	M	SD	English Card Grade	SD
High English Achievers	68	8.54	2.46	89.28	1.84
Low English Achievers	68	8.54	2.33	83.56	2.29

### 3.3 Mantel-Haenszel Method

To detect DIF between two sub-samples of examinees for a dichotomously scored test item (correct or incorrect), the Mantel-Haenszel (MH) procedure (Mantel & Haenszel, 1959) is a common statistical analysis to investigate the dependency of two variables in a three-way contingency table. This procedure summarized test item data in a form of a  $2(\text{scoring categories}) \times 2(\text{subpopulations}) \times 30(\text{categories in matching criterion})$  contingency table (Holland and Thayer, 1988). Scoring categories were either correct or incorrect response, subpopulations were the high- (focal) and low-English achievers (reference) and there were 30 test items considered for the matching criterion. This MH procedure started by computing the common odds-ratio  $\hat{\alpha}_{MHi}$  for a particular test item  $i$ . If the  $\hat{\alpha}_{MHi}$  is equal to 1, then there is no difference between the high- and low-English achiever groups by controlling for the level of the matching criterion. If  $\hat{\alpha}_{MHi} < 1$ , then the possible bias was against the low-English achievers because the high-English achievers performed better than them. A common odds-ratio  $\hat{\alpha}_{MHi} > 1$  indicates that the said item was biased against the high-English achievers. After computing for the  $\hat{\alpha}_{MHi}$  value, a signed index  $\hat{\beta}_{MHi}$  was derived from its formula  $\hat{\beta}_{MHi} = \ln \hat{\alpha}_{MHi}$ . A value of  $\hat{\alpha}_{MHi}$  less than 1 will make its  $\hat{\beta}_{MHi}$  value negative, while a value of  $\hat{\alpha}_{MHi}$  more than 1 will make its  $\hat{\beta}_{MHi}$  value positive.

This will mean that a positive  $\hat{\beta}_{MHI}$  value indicated possible bias against the low-English achievers while a negative  $\hat{\beta}_{MHI}$  value indicated possible bias against the high-English achievers. An indication that there is no difference between the high- and low-English achievers given the same level in the matching criteria is when  $\hat{\alpha}_{MHI} = 1$  and  $\hat{\beta}_{MHI} = 0$ . This signed index value will then be used to determine the MH-DIF statistic  $\hat{D}_i$  (Holland & Thayer, 1988) with the formula  $\hat{D}_i = 12.35\hat{\beta}_{MHI}$ . Accordingly, a positive  $\hat{D}_i$  value indicated possible bias against the high-English achievers while a negative  $\hat{D}_i$  value indicated possible bias against the low-English achievers. Using the absolute value of  $\hat{D}_i$  as  $|\hat{D}_i|$ , if this value is more than 1.5, then this particular item is flagged as C item because it obtained high DIF and should be removed and revised from the test. A items are those that obtained negligible or less than 1 value for its  $|\hat{D}_i|$  where these will not be revised anymore and to be considered for the test. Remaining items were those obtaining  $|\hat{D}_i|$  values between 1 and 1.5 and were identified as B items and should be recommended for further inspection. Table 6 showed a summary for the item classification of each test items according to their  $|\hat{D}_i|$  values.

Classification	$ \hat{D}_i $ value	Interpretation
A Item	0-1.0	No or Trivial DIF
B Item	1.0-1.5	Item to be investigated
C Item	More than 1.5	Large DIF

To test the difference of the odds of getting an item correct for both groups of high- and low-English achievers across all levels in the matching criterion,  $MH_{\chi^2}$  was computed. With  $df = 1$ , these obtained  $MH_{\chi^2}$  values were tested from its critical value  $MH_{\chi^2 CV} = 3.84$  from a 0.05 level of significance. MH-DIF analysis of obtained data was done through SPSS. From this software, respondents from the focal group (low-English achievers) were coded 0 while those who belong to the reference group (high-English achievers) were coded 1. The MH method was executed using the Crosstabs procedure from SPSS. A sample output from SPSS for the last test item #30 was shown in Table 7. The common odds ratio ( $\hat{\alpha}_{MHI}$ ) obtained here was 0.476 indicating the odds of a correct response was approximately 47.6% of the odds for respondents from the high-English achievers, given the same level of matching criterion. This value was converted to its signed index value  $[(\hat{\beta})_{MHI}]$  of -0.742 and an MH-DIF statistic ( $\hat{D}_i$ ) value of 1.74. The positive value of the  $\hat{D}_i$  MH-DIF statistic indicates that its DIF is against the focal group (low-English achievers). Also, the 95% confidence intervals for  $\hat{\alpha}_{MHI}$  and  $\hat{D}_i$  values, respectively, were estimated as These obtained intervals provided for the 95% confidence intervals for  $\hat{D}_i$  values at With these values and based from Holland and Thayer's criteria, the item was classified as C item which was flagged as having high DIF towards high-English achievers. However, even if its  $MH_{\chi^2}$  value of 3.297 was close to the critical value  $MH_{\chi^2 CV} = 3.84$ , its DIF still cannot be considered as existent.

Table 7: SPSS Output for MH Procedure (Item #30)  
Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
ENGACHIEVE * m30 * mtot	136	100.0%	0	.0%	136	100.0%

ENGACHIEVE \* m30 \* mtot Crosstabulation

Count				
mtot		m30		Total
		0	1	
68	ENGACHIEVE 0	40	28	68
	VE 1	51	17	68
	Total	91	45	136

Tests of Conditional Independence			
	Chi-Squared	df	Asymp. Sig. (2-sided)
Cochran's	4.019	1	.045
Mantel-Haenszel	3.297	1	.069

Mantel-Haenszel Common Odds Ratio Estimate			
Estimate			.476
ln(Estimate)			-.742
Std. Error of ln(Estimate)			.373
Asymp. Sig. (2-sided)			.047
Asymp. 95% Confidence Interval	Common Odds Ratio	Lower Bound	.229
		Upper Bound	.989
	ln(Common Odds Ratio)	Lower Bound	-1.473
		Upper Bound	-.011

The Mantel-Haenszel common odds ratio estimate is asymptotically normally distributed under the common odds ratio of 1.000 assumption. So is the natural log of the estimate.

Similar SPSS procedure was done for each of the remaining test items. Considering the item classification criteria of Holland and Thayer, two items were considered as C items and obtained high DIF values. Item numbers 23 and 30 both obtained  $|\hat{D}_i|$  values more than 1.5. Eight items were considered as B items and needed to be investigated for its DIF source. With their obtained  $|\hat{D}_i|$  values between 1.0 to 1.5, item numbers 3, 19, 20 and 21 were B items that were biased against the

low-English achievers (focal group) while item numbers 1, 8, 28 and 29 were B items that were biased against high-English achievers (reference group). Table 8 showed the test items that were flagged as either B or C items. All remaining test items were considered as A items because their  $|\hat{D}_i|$  values were either negligible or less than 1.

Item	$MH_{\chi^2}$	95% CI for			95% CI for		
		$\hat{\alpha}_{MH_i}$	$\hat{\alpha}_{MH_i}$	$D_i$	$D_i$		
<b>B-items</b>							
1	1.44	1.61	0.82	3.18	-1.12	-2.72	0.48
3	0.73	0.63	0.27	1.47	1.1	-0.91	3.1
8	1.08	1.53	0.77	3.03	-1	-2.61	0.61
19	0.7	0.64	0.28	1.48	1.04	-0.91	2.99
20	0.7	0.64	0.28	1.48	1.04	-0.91	2.99
21	1.18	0.56	0.23	1.34	1.36	-0.69	3.41
28	1.57	1.87	0.81	4.32	-1.47	-3.44	0.51
29	1.78	1.81	0.84	3.87	-1.39	-3.18	0.4
<b>C-items</b>							
30	3.3	0.48	0.23	0.99	1.74	0.03	3.46
23	3.58	0.34	0.12	0.94	2.52	0.14	4.91

The test items mentioned from table 8 were discarded and a DIF-revised test was constructed. From this revised 20-item test, 7 (35%) focused on conceptual knowledge, 11 (55%) on skills application, and 2 (10%) on both synthesis and analysis. According to topic, 6 (30%) focused on algebraic expressions, 9 (45%) on linear equations and inequalities in one variable, and 5 (25%) on rational algebraic expressions.

The item length, or the number of words used per test item, was determined for each test item. With these and the obtained  $|\hat{D}_i|$  values, SPSS was used to analyze the correlation between the two variables using Pearson product moment of correlation. The obtained Pearson Correlation value was -0.324 indicating a negative low correlation. However, its significance value of 0.081 is not less than the set 0.05 which means that this correlation was not significant enough. Table 9 showed the SPSS output for the correlation between item length and  $|\hat{D}_i|$  values.

Table 9: SPSS Output for the Correlational Analysis  
Correlations

		Itemlength	DMH
Itemlength	Pearson Correlation	1	-.324
	Sig. (2-tailed)		.081
	N	30	30
DMH	Pearson Correlation	-.324	1
	Sig. (2-tailed)	.081	
	N	30	30

#### 4. SUMMARY, CONCLUSION AND RECOMMENDATION

From the analysis of findings, it was found that the data was insufficient to reject the null hypothesis that there were no significant differences in proportions attaining a correct response across total score categories, in terms of English proficiency. These were based from the  $MH\chi^2$  values obtained which were all less than its critical value at 0.05 significance level. However, there were test items that were flagged as B items and C items. Since their DIF values were either high or suspicious in terms of its source of item bias, these DIF flagged items need to be removed from the DIF revised test. Test item numbers 23 (What is the prime factorization of

) and 30 (Which of the following expressions DOES NOT involve similar rational algebraic expressions?) were flagged as C items and should be removed or revised because these were biased against the low-English achievers. It can be observed from these two test items that they involve too many algebraic terms from their choices. Moreover, these two items used technical terms from Algebra such as prime factorization and RAE. Test item numbers 3 (Find the quotient

), 19 (If then what is the value of  $d$  ),

$7 \text{ mpi (miles per hour)}$

20 (Andres is slower than Jose. If Jose is moving at  $F \text{ mpi}$ , then how long will it take Andres to travel a distance of 3 miles?) and 21 (What is the solution set for the inequality ) were flagged as B items and were biased against the low-English achievers. These test items need to be investigated by looking at the possible sources of its DIF. It can be observed from these four test items that they involve only algebraic terms from their choices. Item number 20 had a high item length while the remaining three items have low item length. Most of the questions were direct and used simple words and tenses. Test item numbers 1 (Which of the following is the leading term of the expression

$t + 5 + 4t^3 + 2t$  ), 8 (Find the product ), 28 (How can you

simplify an RAE?) and 29 (Simplify  $\frac{7fg^3}{35f^2g^2}$ ) were flagged as B items and were biased against the high-English achievers. These test items needed to be investigated by looking at the possible sources of its DIF. It can be observed from test items 1, 8 and 29 that they involved only algebraic terms from their choices. However, the choices from item 28 involved compound sentences. Item number 1 had a high item length while the remaining three items have low item length. Items 1, 8 and 28 also used technical algebraic terms such as leading term, RAE, GCF, LCM, product, numerator and denominator. With the item length having no significant correlation



with  $(D)^i$  in terms of English proficiency, other linguistic factors can possibly affect the DIF and item bias of test items. Moreover, since the Chi-Square method of computing  $MH\chi^2$  was particularly sensitive to the number of respondents, the study can further its analysis by considering a large number of respondents. With this, it is also substantial to use other statistical technique for DIF detection and have a comparison among these various DIF techniques. While there are more procedures in gathering more information about DIF items, this paper focused exclusively on detecting the DIF items. If there is a comparison between DIF values of various test items, the sources of these variations is essential to be investigated. Providing a detailed and critical observation of these sources will be informative in lessening the DIF items of future examinations through various means such as instruction, policy, and test development. Also, it is possible that the DIF values vary across group units, such as type of school, gender and cultural orientation. This is especially true for realizing the testing accommodations of national examinations and entrance examinations of various learning institutions where the stakes are high for passing. This information will be beneficial in gathering suggestive information for school administrators and policy-makers on how tests must be constructed. As this paper presented a comprehensive procedure in using Mantel-Haenszel DIF detection technique, it provides other researchers deeper insights into the concept of bias to continue enhancing and including language proficiency as basis for constructing content- and skill-based tests.

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## **Instructional Management of Business English Course at Thai-university Level Prior to the Upcoming ASEAN Economic Community**

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### **ABSTRACT**

The objective of the study was to investigate the instructional management of Business English course at a university-level in Thailand during the preparation for the upcoming ASEAN Economic community. Classroom observation and in-depth interview were applied. Business English classrooms of four universities were observed three times during the semester and four instructors were interviewed in depth. The results revealed that each classroom was differently conducted. The grammar-translation method and the communicative language teaching approach, as well as published and authentic materials were used in classrooms on the authority of individual instructors. The authors concluded that the instructional management of the course in a Thai context somewhat trained students for workable ability and knowledge of Business English.

**Keywords:** Business English course, instructional management, ASEAN Economic Community

### **1. INTRODUCTION**

English is a lingua franca and plays a vital role in all international and national workplaces and communities. The upcoming ASEAN Economic Community or AEC in 2015 emphasizes the necessity of the language primarily used in the region since all ASEAN (Association of South-East Asian Nations) peoples from the ten countries routinely speak their own national languages. Most of them rarely communicate one another in any other national languages, especially in an international business context. As a result of the linguistic diversity, English is absolutely the sole working language, benefiting all communicators worldwide as well as ASEAN country members to achieve their individual goals of their interaction. In an educational context, educational institutions, in particular at a university level, have to take a serious responsibility to prepare ready-to-use graduates for labor markets. Prior to facing the first work experience, university has to provide students with well-designed instructional management. As part of an instructional provision at a university level, the efficiency of conducting Business English course has to be taken into careful consideration to instructors and stakeholders in order to cultivate essential skills and

knowledge to students which in reality are required to perform in workplace.

### **1.1 ASEAN Economic Community and communication in the region**

ASEAN Economic Community (AEC) has been recently a widespread phenomenon in Thailand and other countries in ASEAN. AEC is one of the three pillars, including ASEAN Political-Security Community and ASEAN Socio-Cultural Community. According to the 13th ASEAN Summit on November 20th 2007 in Singapore, the official establishment of AEC is to be in 2015. The ultimate goal of the regional economic integration is expected to lead to a single market and production base, a highly competitive economic region, a region of equitable economic development, and a region fully integrated into the global economy (ASEAN Secretariat. 2009).

After the AEC establishment, ASEAN peoples are to communicate in English which is the sole working language. In the region, the linguistic diversity is noticeable and also national and official languages are not the same. As a result, English is primarily necessary for these ten member countries. However, it is noteworthy that Brunei, Malaysia, Myanmar, Singapore, and the Philippines as earlier colonized countries of Britain and the US tend to gain a more considerable advantage of English communication than other countries which are Cambodia, Indonesia, Laos, Vietnam and Thailand. (Kirkpatrick. 2007, Hart-Rawung and Li. 2008, Phothongsunan and Suwanarak. 2008, Luanganggoon. 2010).

### **1.2 Instructional management of Business English course**

To provide an efficient instructional management of Business English course, four key components which are Business English content, instructional styles, and instructional materials are in a main focus for instructors and stakeholders to take into their consideration.

#### *a. Business English content*

The content in Business English course has to cultivate the ability and knowledge which are necessary in the present world. Up to present, many educators have beneficial approaches to designing Business English content. Raimaturapong (2006) asserted that language learning is actually relevant to four key elements: communication or language use, cognition or thinking process, course content or knowledge, and culture or social mediation and interaction. Further, Ellis and Johnson (1994) proposed the four main elements in designing Business English content. The first of all is “language knowledge and skills”. Students have to know how to use vocabulary and grammar and beyond sentences, appropriate cohesion to achieve coherence. Besides, they are able to listen, speak, read and write in English, and also to interpret and translation. The second important element is “business knowledge and skills”. Students have to know economics, management and international business law and are to be able to use business skills. The third key element in the globalization era is “intercultural communication skills”. Students have to know intercultural cognitive skills, have intercultural accommodation abilities, and also have intercultural interaction ability. The last essential one is “humanity qualities”. Students have political stand and ethics, have critical and innovative thinking, and are savvy for their own and foreign cultures.

What’s more, in accordance with the model of global communicative competence (Louhiala-Salminen and Kankaanranta.2011), Business English content is suggested to consider and conclude these elements. The first one is “global communicative competence” - the ultimate goal of conducting Business English course. Next element

is “multicultural competence” - the ability to be flexible and tolerant to multicultural environment or the culturally different ways of doing things. The third one is competence in “Business English as a Lingua Franca” or BELF - the ability to make use of the situation-specific “core” of the English language which are practically asking questions, repeating utterances or sentences, and using more than one channel to succeed in a shared understanding between communicators. And the last one is “business knowledge” - the knowledge in each business field.

In addition, communicative functions and activities in Business English course have been recently introduced by Doyle (2012). The three components which should be taken into instructors and course planners’ consideration: business content, cultural content, and geographical content. According to the concepts of designing the content, the components are equal and significant to pay attention to seriously. Students are to develop and gain knowledge of the three elements which can be very valuable in the language learning classroom. Without any of them, the course is to be inefficient and also students as a result are unable to be well-educated and well-trained to become well-qualified workers for their prospective professions.

Ellis and Johnson (1994) also suggested other three key elements for content designers to take to their account. The first component is “a sense of purpose” - language is used to achieve an end, and its successful use is seen in terms of a successful outcome to the business transaction or event. Users of Business English need to speak English primarily so that they can achieve more in their jobs. The use of language has an implied element of risk: mistakes and misunderstandings could cost the company clearly. Much of the language needed by businesspeople will be transactional: getting what you want and persuading others to agree with the course of action you propose. The language will frequently be objective rather than subjective and personal. The next component is “social aspects” - social contacts are often highly ritualized. Formulaic language is used such as greetings and introduction in the context of a routine pattern of exchanges. A certain style is generally polite but also short and direct. The style and content of social interactions will be typified by a desire to build a good relationship while avoiding over-familiarity. And the final component is “clear communication”. Information has to be conveyed with minimum risk of misunderstanding and the time for processing needs to be short. For instance, word clusters are used avoid circumlocution and certain evolved terms and acronyms are often applied, in particular in a parent company.

#### *b. Business English instructional styles*

According to many researchers and educators in a Business English field (Gow. 1991, Ellis and Johnson. 1994, Pineiro. 2002, Louhiala-Salminen and Kankaanranta. 2011, Raimaturapong. 2006, Doyle. 2012), instructors are recommended to conduct their course with the following pairs:

1. Language skills and business knowledge
  - teaching should be practice-oriented by balancing language skills training and learning together with business knowledge learning.
2. Language skills and intercultural communication skills
  - instructors should pay their attention to culturally sensitivity to differences between cultures, tolerance, and flexibility in encountering cultural differences by means of language communication skills.
3. Classroom teaching and autonomous learning
  - autonomous learning should be applied in classroom. For instance, self-learning in the Internet brings students to the world of life-long learning.
4. Professional and humanistic understanding

– the course should seriously train students with thinking skills and creativity along with morals and ethics, cultural savvy and psychological well-being.

5. Teaching and learning of theories and practicum

– practicum such as lab teaching or learning, professional internships, business plan design and academic activities should be given in the course if possible. Further, dissertation or assignment is important to grow interaction and practical abilities of students.

6. Traditional methods and modern IT approaches

– even though traditional methods such as giving a lecture is still practical, the use of modern high technologies is a recommended alternative for teaching methodologies and contents which will definitely increase the efficiency of teaching and learning in the course.

In addition, student-centered and teacher-guided approaches should be completely used in the course. Students will surely have a great opportunity to learn, research, and solve problems themselves. In order to motivate students, task-based learning, case study, simulation, project method and multimedia teaching are really in need for students' participation in the whole learning process. More importantly, new approaches of teaching and learning should promote autonomous learning practice and creativity.

*c. Business English instructional materials*

Instructional materials are one of the key elements in Business English course. Materials have been produced to fulfill some social purpose in the language community (Widdowson. 1990). In the course, instructors are able to decide to use either or both of published and authentic materials (Ellis and Johnson. 1994).

Published materials aim at the teaching of English in a business context and the business skills training market. The materials consist of general business coursebook packages, supplementary materials, job-specific materials, reference books, self-access materials, video materials, and business simulation games.

Authentic materials are mostly recommended since they are extremely practical and based on the realistic use in workplace. Types and sources of the materials are books, the media (newspaper, magazines, specialist journals, radio and TV), company-specific materials (the annual report, product information, newsletters, Public Relation material, company videos, correspondence, reports and memo, minutes of meetings, contracts, manuals and written instructions), public information material, recording live events on audio or video.

Using authentic materials in the course provides both advantages and disadvantages as Martinez (2002)'s assertion. As for the former ones, the materials benefit students many ways. First of all, students are exposed to real discourse, as in videos of interviews with famous people where intermediate students listen for gist. Second, authentic materials keep students informed about what is happening in the world, so they have an intrinsic educational value. Third, textbooks often do not include incidental or improper English. Fourth, they can produce a sense of achievement, e.g., a brochure on Hong Kong given to students to plan a 3-day visit. Fifth, the same piece of material can be used under different circumstances if the task is different. Next, language change is reflected in the materials so that students and teachers can keep abreast of such changes. Then, reading texts are ideal to teach or practice mini-skills such as scanning, e.g. students are given a news article and asked to look for specific information (amounts, percentages, etc.). Besides, books, articles,

newspapers, and so on contain a wide variety of text types, language styles not easily found in conventional teaching materials. Last, the materials can encourage reading for pleasure because they tend to contain topics of interest to learners, especially if students are given the chance to have a say about the topics or kinds of authentic materials to be used in class.

However, certain disadvantages are found when the materials are used in the course. First, the materials may be too culturally biased, and also so unnecessarily difficult to understand. Second, the vocabulary may not be in relation to the student's immediate needs. Third, too many structures are mixed, so students with lower English language proficiency levels have a hard time decoding the texts. Next, special preparation is necessary for learning the course, and it can be time-consuming. Then, while listening, students may have a problem of too many different accents. Last, the materials tend to be outdated easily such as news.

## **2. METHODS**

This study employed a quantitative method described as follows:

### **2.1 Samples**

The population of the study consisted of Business English classrooms of Thai universities in Bangkok and the suburban areas. The classrooms were conducted in the first semester of the 2012 academic year in faculties of Arts, Humanities, and Liberal Arts. The samples were selected from the classrooms which instructors voluntarily agreed to be observed and interviewed. As a result, the four universities willingly participated in this study.

### **2.2 Instruments**

Two instruments were employed in this study. An observation checklist was developed with three parts: information, classroom observation with two topics (Business English instructional styles and materials), and recommendation. And semi-structured interview questions were settled according to three main topics: Business English content, instructional styles, and materials.

### **2.3 Procedures**

The data was gathered during two phases. The first phase was classroom observation. The data was collected from four Business English classrooms of the universities in Bangkok and the suburban areas by observing classrooms in the fourth, eighth and twelfth weeks of the first sixteen-week semester. And the second phase was an in-depth interview. The facts from four instructors were gathered at the final week of the semester.

### **2.4 Statistical treatments**

The data from the classroom observation and in-depth interview was analyzed by simple descriptive statistics.

## **3. RESULTS**

### **3.1 Phase One: Classroom observation.**

The results of Business English instructional styles and materials are shown in the following tables:

Table 1: Assessment of Business English instructional styles

Business English instructional styles	Assessment	
	Yes	No
1. Instructor balances language skills training and learning together with business knowledge learning.	100 %	-
2. Instructor pays his or her attention to cultural sensitivity to differences between cultures, tolerance, and flexibility in encountering cultural differences by means of language communication skills.	25%	75%
3. Instructor applies autonomous learning in his or her classroom.	25%	75%
4. Instructor trains students with thinking skills and creativity along with morals and ethics, cultural savvy and psychological well-being.	25%	75%
5. Instructor provides practicum such as lab teaching or learning, professional internships, business plan design and academic activities.	-	100%
6. Instructor applies only traditional methods such as giving a lecture.	-	100%
7. Instructor uses both traditional methods and the use of modern high technologies	100%	-

From the above table, all instructors of the four classrooms balanced language skills training and learning together with business knowledge learning and used both traditional methods and the use of modern high technologies. However, all of them did not provide practicum such as lab teaching or learning, professional internships, business plan design and academic activities.

In addition, three of them did not pay their serious attention to cultural sensitivity to differences between cultures, tolerance, and flexibility in encountering cultural differences by means of language communication skills. The three instructors did not apply autonomous learning in their classrooms. Besides, only one instructor trained students with thinking skills and creativity along with morals and ethics, cultural savvy and psychological well-being.

Table 2: Assessment of Business English instructional materials

Business English instructional materials	Assessment	
	Yes	No
8. Only published materials are used.	75%	25%
9. Only authentic materials are used.	25%	75%
10. Both published and authentic materials are used.	-	100%



Regarding the table 2, instructors of three classrooms taught their students with only published materials. In contrast, the authentic materials were used in only one classroom. No classroom observed was conducted with published and authentic materials.

### **3.2 Phase Two: An in-depth interview.**

The responses of four questions are revealed as follows:

#### **3.2.1 Business English content**

*Do you think the contents to teach or train your students are practical for their future careers?*

All instructors were confident that their students could benefit from all contents they had carefully selected. Interestingly, they did believe that during the course, students practiced all four skills of English and learned necessary vocabulary in a business context.

*How frequently do you revise and improve the content and how do you do so?*

The instructors maintained that according to the educational policy of each university, the curriculum is to be revised and improved in the course of every four years. In addition, students had to seriously evaluate their instructors and the instructional management of the course after the course completion, and also to suggest for better instructional management. As a result, the instructors were able to realize how they were to revise and improve the content.

#### **3.2.2 Instructional styles**

*Which of the instructional styles benefits students in your course the most? And why do you choose that/ those style(s)?*

All instructors agreed to teach language skills and business knowledge throughout the courses. Three of them mentioned that because of the time constraint of 2-3 hours /week as well as the large class of 35 – 40 students, they could not seriously teach their students about the cultural sensitivity to differences between cultures, tolerance, and flexibility in encountering cultural differences by means of language communication skills. However, all instructors added that they still used both traditional methods and the use of modern high technologies. One instructor asserted that some Thai students still lacked of high English language proficiency level, so the traditional methods which are grammar-translation might yield great profits.

#### **3.2.3 Instructional materials**

*Which of the instructional materials should be used in your course? And why do you choose that/ those material(s)?*

Most instructors responded that they decided to teach with published materials since they were well designed by native-speaking writers and were suitable for students' English language proficiency level. In addition, they believed that students could learn and practice a lot during the course effectively. In contrast, the only one instructor chose to teach with authentic materials, explaining that students could learn from realistic vocabulary and proper English used in workplace. Also, he clarified that studying Business English does not relate to only grammar and translation, but in reality the ultimate goal of the course is to train students with only necessary ability and knowledge of Business English for their future career.

#### **4. DISCUSSION**

According to the main objective of the study, the classroom observation and in-depth interview revealed the facts of the instructional management of Business English course in some universities in Bangkok and the suburban areas. Business English content, instructional styles and instructional materials were key factors to investigate.

Concerning the model of global communicative competence (Louhiala-Salminen and Kankaanranta.2011), global communicative competence, multicultural competence, Business English as a Lingua Franca or BELF competence, and business knowledge are recommended to be included in Business English content. Most instructors in the study did not conduct their classrooms as suggested by the model. The possible reason is that the course has not been revised and improved yet because there is a four- year cycle of course revision and improvement. The other reason is that Thai instructors of Business English are not probably aware of the upcoming AEC in 2015 yet. As a result , the four components were overlooked.

Regarding Ellis and Johnson (1994), Coyle (1999), Louhiala-Salminen and Kankaanranta (2011) and Doyle (2012), Business English instructional styles are to be efficient if the course consists of these six key pairs of elements: language skills and business knowledge, language skills and intercultural communication skills, classroom teaching and autonomous learning, professional and humanistic understanding, teaching and learning of theories and practicum, and also traditional methods and modern IT approaches. In the observed Thai Business English classrooms, intercultural communication skills, autonomous learning, and also practicum were not in a primary focus, while only traditional methods and modern IT approaches were evidently found. In reality, these three elements are of necessity for any multicultural communities, in particular ASEAN Economic Community (AEC).

With reference to Ellis and Johnson (1994), authentic materials are primarily suggested in the course as they are extremely useful and based on the realistic use in workplace. In the four classrooms, authentic materials were used in only one classroom while published materials were mostly used in the other classrooms. It can be illustrated that some Thai instructors believe in the quality of the published materials written by native-speakers of English. However, instructors should consider about the real use of ability and knowledge of Business English in real workplace and the authentic materials tend to meet the needs of workplace requirement (Zakaria, Zahiah and Abd Aziz, Mohd Sallehudin. 2011, Zabihi, Reza. 2011)

In short, the instructional management of Business English of the universities in this study is in need of revision and improvement. Certain key elements suggested by the researchers and educators in a Business English filed are neglected. In the preparation for AEC in 2015, Thai universities offering a Business English course should evaluate the instructional management of the course to produce well-qualified workers to national, regional and international labor markets.

#### **5. CONCLUSION**

This study has provided an overview of the instructional management of the course in a Thai context. Even though a number of samples were relatively small, they revealed the interesting facts that the course somewhat trained students for workable ability and knowledge of Business English. In addition, the instructional management

of the course has to be reconsidered in order to revise and improve to get all students ready for the official establishment of AEC in 2015.

## 6. ACKNOWLEDGEMENT

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**DEVELOPMENT OF THE PROGRAM EVALUATION SCALE  
FOR THE PEDAGOGIC FORMATION CERTIFICATE  
PROGRAM CARRIED OUT IN TURKEY**

**Oktaý Cem Adiguzel**

**ABSTRACT**

Throughout the history of Turkish Republic various policies has been developed and carried out for the training of subject teachers for elementary and secondary schools. The need for subject teachers have often been tried to meet as rapidly as possible in order to meet the educational needs of increasing population and to develop qualified human resources. Accordingly, practices of “correspondence training”, “evening courses”, “accelerated training” were carried out for teacher training in different periods. In addition to these practices, “teacher training certificate programs” – also named as “pedagogic formation certificate programs” – were opened due to the need for subject teachers. These programs included one-year training on teaching skills for the graduates of faculties other than education faculties – especially faculties of arts and sciences – and gave those graduates the opportunity of working as subject teachers. These certificate programs were reopened in Turkey during 2010 – 2011 educational term. The content of these programs was developed and sent to the universities by “The Council of Higher Education”. The universities were then requested to construct the contents of the courses. The purpose of this study is to develop a goal-focused program evaluation scale for the evaluation of these certificate programs. For this purpose, a descriptive survey study was designed and carried out. First, the related literature was reviewed to construct a pool of items. After this review, the general purposes of these certificate programs were investigated and a pool including approximately 60 items was constructed considering teacher standards. Also expert opinions were used in order to revise or discard some items and a totally 49-item scale was developed. The expert opinion on the 49-item version of the scale was taken again before the pilot study. The pilot study was carried out with 100 subjects during 2010-2011 term. After the pilot study, exploratory factor analysis was conducted and the item number was reduced to 40. The 40-item revised scale was also conducted to 221 subjects and a 4 factor 26-item final version of the scale was constructed after this second pilot study. Finally the last version of the scale was conducted to different 220 subjects at the end of 2011-2012 term in order to confirm the scale and the development of program evaluation scale was completed with a confirmatory factor analysis.

**Keywords:** Program evaluation, Pedagogic formation certificate program, scale development, Measurement and evaluation

## **Shapers of Their Destiny: A History of the Education of Cuban Children in the United States Since 1959**

**Guadalupe San Miguel Jr**

### **1.INTRODUCTION**

Since the late 1980s, important work has been done on the history of Latino education (MacDonald, 2001). Although much new information has been published on the history of Latinos in education over the past several decades the vast majority of this scholarship has focused on the plight and struggle of two specific Latino groups in the schools-Mexican Americans and Puerto Ricans (San Miguel, Jr, 1986; Nieto, 1995). No significant historical studies focusing on the education of other Latino groups, including Cuban Americans or Central Americans, have yet to appear in the early 21<sup>st</sup> century but there is a wealth of information that can be used to develop such histories. This essay is a contribution to that effort. In this essay, I provide an historical interpretation, albeit, a tentative one at best for now, of the educational experiences of Cubans and Cuban Americans in Miami, Florida from the 1960s to the present.

Most scholars of the 20<sup>th</sup> century Cuban experience in the U.S. focus on several themes, including immigration, U.S. relations with Cuba, exile politics, literary works of Cuban exiles and Cuban Americans. Few of these works deal with education (Garcia, 1993; Grenier and Perez, 2003).

The limited studies on education generally focus on refugee children and on the ways in which local school officials in Miami and in other southern Florida communities responded to their growing numbers in the schools in the 1960s and 1970s.(Mackey and Beebee, 1977; Pedraza-Bailey and Sullivan, 1979; Silva, 1985). Studies on the educational experiences of Cubans in the contemporary period argue that local school officials responded rapidly and in a sensitive manner to the rapid influx of Cuban refugees over the years. These studies, while important, fail to show agency on the part of the Cuban community. They generally view them in passive terms and ignore the various ways in which Cubans themselves responded to their new situation in the United States. Cuban exiles were not simply receiving the benefits of American generosity. They actively participated in shaping the education their children received. Cuban exiles responded in creative ways to their new situation in the United States. They contributed to the planning and implementing of educational programs, assumed administrative and instructional positions in the public schools and developed or purchased appropriate Spanish language instructional materials for these programs. By the 1970s Cuban Americans also began to get elected to local school board positions and influenced the making of educational policy affecting their children. The following essay then sketches, in broad strokes, the role that Cubans-both exiles and Cuban Americans- played in shaping their children's educational opportunities.

### **2.AGENCY IN THE DESIGN AND IMPLEMENTATION OF EDUCATIONAL PROGRAMS**

The focus on local school district responses to Cuban refugee children, while important, suggests that the Cuban community was not actively involved in the education of their children. But this is inaccurate. Cuban refugees actively sought jobs

as public school teachers, counselors, and other professional staff in the schools, participated in teacher certification/re-certification programs, and enrolled in university based teacher training institutions to assume their role as educators of these children, helped design bilingual programs, and developed or purchased appropriate Spanish language instructional materials for these programs.

As early as 1963, a few Cubans were hired as teacher aids in several of the public schools throughout the Miami Dade County area. One of these included the Coral Way Elementary School that eventually established the first bilingual education program in the country in this era. A number of these aides also were participating at the time in the Cuban Teacher Retraining Program at the University of Miami in nearby Coral Gables. In this year, six of these aides were hired as Spanish teachers for the new bilingual program in this school (Mackey and Beebee, 1977, 65-66).

The number of Cuban and Latino educators increased in the next several years as the bilingual program expanded into the higher grades and into other schools. The number of Cuban teachers in the Coral Way Elementary School, for instance, increased from four aides in 1963 to 25 teachers almost a decade later. Central Beach Elementary, the second school in Miami to establish a bilingual program starting in 1966, also hired Cuban aides and teachers. By 1973, four special "Spanish" teachers and two Cuban aides were providing instruction in the Spanish language at Central Beach. By 1973, Cubans comprised approximately 7% (722) of public school teachers in the district. Although their percentage was small relative to the student composition, which was almost 25%, it suggested active agency on the part of the Cuban community (Mackey and Beebee, 51, 70, 90).

Cubans also became administrators and helped design bilingual programs and implement bilingual education program. As administrators they purchased or encouraged the development of appropriate Spanish language instructional materials for these programs. The percentage and numbers of administrators increased over time so that by 1973 approximately 3% (25) of the administrative staff were Cubans (Mackey and Beebee, 1977, 51). Although small in numbers, Cubans then were not merely passive recipients of a generous education, they actively helped shaped that education.

The experiences of three Cuban administrators hired to implement the first bilingual education program in the country at Coral Way Elementary School in Miami Dade County illustrates the active roles they played in the education of Spanish speaking children in that district. The three experienced Cuban educators hired to implement and to train teachers for the new bilingual education program at Coral Way elementary School in the early 1960s were Rosa G. Inclan, Herminia Cantero, and Iluminada Valle.

Inclan, born in Havana, Cuba in 1921, studied in both the U.S. and Cuba. She was the director of the training program for teachers of English as a Second Language at the University of Havana before her departure to the U.S. in 1960. In Miami she helped draft the proposal that eventually led to the establishment of the first bilingual education program in the country. She also became a teacher trainer in the district, and then, in 1969, was appointed to the position of Coordinator of Bilingual Education for the school system. Cantero was born in Las Villas province in Cuba in 1915. She was the supervisor of English as a Second Language instruction in the public schools in Cuba before departing to the U.S. in 1961. She helped shape the proposal for bilingual education and participated in the training of teachers for this program. Valle likewise

was born in Cuba in 1922. She settled in the Miami area and worked as a Cuban aide and then as a second-language teacher in the first bilingual schools. In 1974, Valle was appointed assistant principal of the Coral Way Elementary School (Mackey and Beebe, 1977, 66-83).

### **3. POWER AND POLITICS IN PUBLIC EDUCATION**

Another important aspect of the education of Cubans in the U.S. is the struggle for power. This struggle was reflected in their efforts to assume important positions of influence within the schools.

The initial emphasis of this effort was on getting access to positions in city and county government. This began in the 1970s. Prior to this decade, Cubans were establishing themselves in Miami and gaining a foothold in the economy. Once they became a dominant force in the economy they began to discard earlier reservations about participation in American politics and to focus on increasing their presence in electoral politics. Their citizenship rates increased, they became an important component of the voting population, and they began to get elected to local and county positions (Garcia, 1996, 137-146).

The following decade, Cubans became a significant force in Miami politics. Based on the redrawing of district boundaries and their own desires, Cubans ran for office and got elected to several important state and local positions. In 1982, they won a total of eleven seats in the Florida state legislature (3 in the Senate and 8 in the House) and in 1985 Xavier Suarez, a Cuban exile, was elected mayor of the city of Miami. The following year, Cubans won majority control of the city commission and held almost all of the city's major administrative positions. Cubans also got elected to the U.S. Congress and in 1989, state senator Ileana Ros-Lehtinen became the first Latina and the first Cuban American to win a congressional seat from South Florida and to serve in Congress (Geron, 2005, 140-141).

The emergence of Cuban Americans as a political force was noted by several scholars when they reported how within a 12 year period from the late 1970s to the late 1980s Cuban office holding in the Miami area increased from four to forty. By 1989, Cubans held six mayoralties, city council majorities in several cities including Miami, Hialeah, West Miami, and Sweetwater, ten of the twenty-eight positions in the Dade County delegation of the Florida legislature, and a seat on the Metro Commission and Dade County School board. With respect to appointive politics, Cubans by the late 1980s held positions in county manager, city manager in the city of Miami, and superintendent of the Dade County schools. They also were an increasing percentage of county and municipal employment (Warren, Corbett, and Stack, Jr., 1990, 170). In this period, in other words, we see the ascendancy of Cubans in electoral and appointive politics in the city of Miami and in Dade County.

The struggle for power in education was part of this Cubano ascendancy in electoral and appointive politics in that county but it developed slowly. This effort began in 1984 when Paul Cejas was elected to the school board in Miami and became the school board chairman. His election significantly broke the pattern of Cuban exclusion from school board politics and initiated a new trend towards structural inclusion. Although included, Cuban participation was limited to one of tokenism for the next decade. By 1991, for instance, Cubans still had only one member on the 9 member Miami-Dade County School Board (National Roster of Hispanic Elected Officials, 1991, 47).

Sometime during the late 1990s or early 21<sup>st</sup> century, they gained majority control of the Miami-Dade County School board and they have maintained that control. In 2007, for instance, five out of the nine members on the Miami-Dade County School board were Cubans ([www2.dadeschools.net/schoolboard/bdmembers.asp](http://www2.dadeschools.net/schoolboard/bdmembers.asp), accessed 8/30/07). When did they begin to get elected to local and county boards of education and when did they become a majority of the board? What explains this increased involvement in school politics and how does it relate to the general quest for power in American society? How did they influence public education policies? These are questions for which we do not yet have answers.

With respect to appointive office, one of the most significant actions took place in 1988 with the appointment of Joseph A. Fernandez as superintendent of Miami-Dade County public schools. Fernandez, born in East Harlem of Puerto Rican parents, was a former high school dropout, a University of Miami graduate and a teacher and administrator in the district for over 20 years. As superintendent, he sought to transform public education in that city and improve its instruction. He initiated and led the restructuring of public education in the country. Restructuring, or more specifically, “school-based management”, a new approach to school reform, was in use in 130 of Miami’s 260 schools when he left to become Chancellor of the New York City public schools. Although he was convinced of the effectiveness of this approach, not enough information on its effectiveness in improving school achievement was available by the time he left the position in 1990 (Tifft, 1990). More research however is needed to find out how he did this in Miami-Dade County, the impact it had on instruction, and its ultimate consequences.

#### **4.COMMUNITY MOBILIZING AGAINST DISCRIMINATION**

Despite the relative ease in which Cubans gained control of the public schools and their children obtained equal access to quality instruction, the Cuban American community occasionally mobilized to struggle against racism in the larger society and discrimination in school treatment. Several specific incidents in the period from the 1970s to the present illustrate this type of struggle more reminiscent of what Chicanos and Puerto Ricans had been and were engaged in during the entire 20<sup>th</sup> century.

The earliest indication of community mobilization against perceived wrongs occurred in 1968 after a report by public school officials estimated that the dropout rate among Cubans and Puerto Rican students in the Dade County Public Schools was higher than the dropout rate for the county students as a whole. The low percentage of Cuban teachers and administrators encouraged community members to demand the hiring of Spanish-speaking teachers, counselors, and other staff members proportionate to the Spanish speaking student enrollment. The board also was asked to expand its bilingual program to prevent Cuban students from dropping out of school. The board responded affirmatively to these demands (Mackey and Beebee, 1977, 49-50).

Another incident occurred in the summer of 1980 during the Mariel boatlift. Although not specifically an educational issue, it had implications for school language policy in general and bilingual education in particular. This incident related to the opposition by Anglos and to a large extent Blacks to a bilingual resolution in the books since 1973 (Mohl, 1989). An Anglo group named Citizens of Dade United mounted an assault against the bilingual resolution and used the petition process to force a county referendum on a proposed anti-bilingualism ordinance. The ordinance



proposed that “the expenditure of county funds of the purpose of utilizing any language other than English, or promoting any culture other than that of the United States is prohibited” (Mohl, 1989, 152).

This proposed ordinance was opposed by a variety of Latino groups, including a new organization called the Spanish-American League against Discrimination (SALAD). Despite this action, the ordinance passed and was approved by a substantial majority of Dade County voters in November 1980. Cuban Americans, for the first time in this country, had lost a major battle over language rights. In some respects, they were now being treated similarly to Chicanos and Puerto Ricans. They were slowly becoming a racialized minority group in this country (Mohl, 1989).

## **5. ESTABLISHMENT OF PRIVATE SCHOOLS**

A final aspect of Cuban involvement in education dealt with private schooling. Cuban children not only attended public schools. They also enrolled in Catholic parochial institutions. Superintendent of Dade County Public Schools Joe Hall noted that in 1961 over 2,650 refugee children were enrolled in the Catholic schools. The Catholic parochial schools, noted Sylvia Crothers, director of Florida Children’s Commission, were “stretched to the breaking point” (Carothers, 1961, 5).

Cuban exiles did not limit themselves only to religious institutions. They established their own private schools or else enrolled their children in private sectarian institutions (MacDonald, 2004). Between 1959 and 1973, Cuban exiles established a variety of after-school programs aimed at maintaining the community’s identity. San Juan Bosco Church in Little Havana, for instance, opened a small religious after-school program in 1967. The Escuela Cívico-Religiosa offered grade school and high school students religious instruction as well as courses on Cuban history, geography, and culture after school each day (McNally, 1982, 153).

Additionally, Cubans established dozens of small private schools nicknamed “las escuelitas cubanas” (the Little Cuban schools). Over 15 private schools were established during the 1960s and early 1970s. Initially, the teaching in these schools was mostly in Spanish but they soon became bilingual as more English was added to the instruction (Mackey and Beebee, 1977). By 1990 at least 30 private schools existed. Among these were the Conchita Espinoza Academy, Miami Aerospace, La Luz, Lincoln-Martí, La Progresiva and José Martí School (Garcia, 1996, 91).

Cuban exiles likewise transplanted some of Havana’s best private schools and re-opened them in Dade County. As Maria Cristina García noted, these schools, in order to obtain state accreditation, met state curricular guidelines but retained much of their original staff and faculty from Cuba. The utilization of personnel from Cuba allowed them to offer some cultural continuity between the old and the new country. Those who sent their children to these schools were assured of a quality education to participate successfully in either the United States or Cuba. One of the better known private schools was Belén Jesuit, originally founded in Cuba in 1854 by Isabel II of Spain. Its alumni included distinguished scholars, scientists, clergy, and political leaders. The Belén Jesuit School was opened in Miami after the Cuban government confiscated its classrooms and libraries and expelled the Jesuits. It originally opened at the Centrol Hispano Católico, then on Flagler Street in the heart of Little Havana, and finally in the southwest part of the Miami suburbs (Garcia, 1996, 91).

## 6. CONCLUSION

Although little information exists on the Cuban role in education, I have suggested that this history is quite complex and both different from and similar in some ways to the history of ethnic Mexicans and Puerto Ricans.

Unlike the history of the two other large Latino groups in the country, local school officials, as most scholars who have written on this topic note, responded rapidly and in a sensitive manner to the rapid influx of Cuban refugees over the years. Similar to these other racialized Latino groups, Cuban educators and community activists played active roles in the education of their children. They sought to shape and influence the education their children received in this country by helping to plan and implement the various programs serving Spanish speaking children in the public schools. They also challenged policies viewed as detrimental to their linguistic and cultural interests and actively sought positions of influence in local, state and national policymaking structures. Their political status as refugees and their white racial and middle class background as well as the Cold War context facilitated their involvement and ensured that they would become influential agents able to shape their own educational destinies. This brief history of Cuban activism in education suggests that they were not merely passive recipients of Anglo generosity but active agents in the schooling of their children. They were, in several important ways, actively shaping their own destiny in the public schools of America.

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# Education VI

**13:00-14:30, December 16, 2012(Room 1)**

**Session Chair:** *Prof. Maricris B. Acido*

**379: Gender Analysis of Critical Thinking Skills Instrument among University Putra Malaysia undergraduate students**

*Ibrahim Nazem ghadi*

*University Putra Malaysia*

**398: Quality of Life, Teacher Burnout and Job Stress among Philippine Science High School Teachers**

*Kristoffer Caseres Loquias*

*University of the Philippines*

*Krishna Anne Bonda*

*University of the Philippines*

*Maria Luisa Gonzales Manliclic*

*University of the Philippines*

*Analiza Garvida*

*University of the Philippines*

*Giandelu Carissa*

*University of the Philippines*

*Echiverri-Santos*

*University of the Philippines*

*Ardeth Marcelino*

*University of the Philippines*

*Jo-Ann Zapanta*

*University of the Philippines*

*Marie Grace Gomez*

*University of the Philippines*

**237: The Role of PhD in a University Career?**

*Luisa Signor*

*Swinburne University of Technology*

*Bruce Calway*

*Swinburne University of Technology*

**389: Formative Assessment Techniques: Innovative Assessment Methodologies and Tools for Raising the Achievement of Low Ability Students in Cross River State, Nigeria, West Africa**

*Clement Ogholo Ukpokor*

*University of Calabar*

**183: Elements of an Effective Radio-Based Literacy Program: Towards a Community-Responsive Pre-Service Teacher Education**

*Maricris B. Acido*

*University of the Philippines*

*Michael Arthus Go Muega*

*University of the Philippines*

*Maria Vanessa Lusung Oyzon*

*University of the Philippines*

**266: From the Three Rs to the Three Cs: A Framework for Environmental Sustainability and Social Justice in Education**

*Shaun Chen*

*University of Toronto*

## **Gender Analysis of Critical Thinking Skills Instrument among University Putra Malaysia undergraduate students**

**Ibrahim Nazem Ghadi<sup>a</sup>, Kamariah Abu Bakar<sup>b,\*</sup>  
Nor Hayati Alwi<sup>c</sup>, Othman Talib<sup>d</sup>**

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### **ABSTRACT**

This study aims to determine the ability of critical thinking of male and female among undergraduate students in University Putra Malaysia. All the four subscales in the instrument were adapted by (Goel, Gold, Kapur & Houle, 1997), (Choi, Koo and Khoi, 2007), (Stanovich, 2010). The objective is to validate critical thinking skills instrument using factor loading to improve the quality of this instrument in the future. The survey involved 951 students in University Putra Malaysia. The results showed, the CTS mean score for female was 3.442 if compared to male based students 3.429 meaning that, there is no significant difference between the critical thinking of male and female students.

Keywords: CTS, analysis, evaluation, deduction, induction.

### **1. INTRODUCTION**

Avery, 1994 defines Critical thinking skill as one of the main components of the thinking skills. Missimer (1990) provide definitions of Critical Thinking as understanding the arguments, recognizing something that is believed to be correct but is erroneous (fallacies). Meanwhile, Bandman and Bandman (1995) define critical thinking as a rational explanation than the idea, inference, arguments, and assumptions that lead to a conclusion, problems, statements, beliefs and actions.

On the other hand, McPeck (1990) defines critical thinking as “thinking with skepticism” about a subject or field, critical thinking can include certain aspects of problem solving and various skills which include analysis, evaluation, deduction and induction. Leicester (2010) sees CTS as “cognitive skillful responsible thinking that facilitates good judgment because it (a) relies upon criteria (b) it self- correcting, and (c) is sensitive to context”. Adding to this analysis of CTS, Bensley, Crowe, Bernhardt, Buckner and Allma (2010) claims that CTS involves three principal elements. First, he claims that it is an attitude of being disposed to consider in a thoughtful, perceptive manner the problems and subjects that come within the range of one`s experience. Second, it can be seen as knowledge of the methods of logical inquire and reasoning. Third, it requires skills in applying those methods.

In Malaysia, CTS instrument is a tool to measure undergraduate students' critical thinking. This instrument was built by (Goel, Gold, Kapur & Houle, 1997), (Lun, Fischer & Ward, 2010), (Stanovich, 2010). This instrument consists of 22 items and divided into four constructs: analysis, evaluation, deduction and induction. Undeniably, there are biased items based on factors such as gender. Even in Raven tests that have been standardized, there is still gender biased. (Facione and Facione, 2007).

The objective of this study are : (i) To validate CTS instrument using factor loading (ii) To find out whether there is a significant distinction between the mean score of male and female in the four constructs of critical thinking.

## 2. METHODOLOGY

This study employs survey as a methodology to gather data. The population consists of randomly selected 951 students (363 male and 588 female) in University Putra Malaysia. The data was analyzed using SPSS 20. The instrument consists of 22 items that test four construct, Analysis 5 items, 4 items evaluation, 7 items deduction and 6 items induction. To analyze the data in this study, the aspects of the mean and standard deviation are taken into consideration.

## 3. RESULTS

According to critical thinking skills instrument: Table 1, demographics of respondents, shows (n= 363, i.e. 38.2%) of respondents were Male, while (n= 588, i.e.61.8%) of the samples were female.

Table 1: Frequency distribution based demographic factors (n=951)

Characteristics	Categories	Frequency	Percents
			(%)
Gender	Male	363	38.2%
	Female	588	61.8%
Total		951	100%

For this part, a quantitative factor analysis was conducted on each factor for the undergraduate students in UPM to improve existing items and eliminate items that did not meet the criteria. This is deemed necessary to revise and improve items on tests (Matlock-Hetzel, 1997).

From this analysis, the researcher will be able to determine the research instrument measures the constructs that it claims to measure by checking on the significant factor loading of the construct. In addition, the researcher will also be able to determine the number of items needed to measure CTS. As shown in Table 2. value factor loading  $>.50$ , were accepted after removing low factor-loading (Analysis1, Analysis3, deduction1 and Induction3), based on the rule of thumb by Hair, Black, Balin & Anderson (2010). This figure indicating reasonably strong relationships between the CTS items and the latent construct.

Table 2: Factor loading of CTS items

Constructs	Items	Item	Factor loading
Analysis	Analysis1	Item1	.45
	Analysis2	Item2	.86
	Analysis3	Item3	.46
	Analysis4	Item4	.80
	Analysis5	Item5	.77
Evaluation	Evaluation1	Item6	.75
	Evaluation2	Item7	.79
	Evaluation3	Item8	.71
	Evaluation4	Item9	.58
Deduction	Deduction1	Item10	.46
	Deduction2	Item11	.61
	Deduction3	Item12	.74
	Deduction4	Item13	.73
	Deduction5	Item14	.77
	Deduction6	Item15	.61
	Deduction7	Item16	.61
Induction	Induction1	Item17	.76
	Induction2	Item18	.65
	Induction3	Item19	-.51
	Induction4	Item20	.74
	Induction5	Item21	.63
	Induction6	Item22	.68

Furthermore, Table 3. shows, the CTS level among undergraduate students were reported at (Mean= .773, S.D. = 0.161). CTS consists four constructs in this study; the highest mean was for the construct “Evaluation” (Mean= 0.823, S.D. = 0.238), followed by “Analysis” (Mean= 0.811, S.D. = 0.241), “Deduction” (Mean= 0.772, S.D. = 0.208) and “Induction” (Mean= 0.687, S.D. = 0.318).

Table 3: Mean score and standard deviation for critical thinking skills (n=951)

<b>Construct</b>	<b>Mean</b>	<b>Std. Deviation</b>
Analysis	.811	.2412
Evaluation	.823	.2386
Deduction	.772	.2081
Induction	.687	.3189
<b>CTS</b>	<b>.773</b>	<b>.1613</b>

This study aims to investigate the significant distinction between the mean scores of male and female’s critical thinking. Table 4. shows an independent sample t-test was conducted to compare the CTS based on gender. Data collected from the female



which make up majority of the students sampled, showed that, the CTS mean score for this group was 3.442 (S.D. = 0.737) and this mean score was found to be slightly higher if compared to male based students (M= 3.429; S.D. = 0.735). However, this difference is found to be not statistically different;  $t(949) = -0.267, p = 0.790$ .

Table 4: Result of t-test analysis on the differences between CTS and gender

Construct	Gender	N	M	SD	df	t	P
CTS	M	363	3.429	0.735	949	-0.267	0.790
	F	588	3.442	0.737			

Note:  $P > .05$

#### 4. DISCUSSION

This study produced results which corroborate the previous findings of Pearson (1991), who examined how well students demonstrated CTS based on gender. The observations pointed out that there was no significant difference between males and females with respect to CTS. Similarly, in a previous study by Ory, Bullock & Burnaska (1997), the results revealed that there were no significant differences in CTS of the observed students based on gender. This finding was further supported by the work of Pawlowski and Ann (1998) and Affana (2008) through a study conducted.

In a recent research to generate the relationship between CTS and gender among students, Brown and Chronister (2009) observed that there is no significant difference between the critical thinking levels and the two genders. Lun, Fischer and Ward (2010) observed that there was no significant gender effect on CTS. Similarly, some studies involving gender and critical thinking reported lack of gender differences among studied populations (Denney, 1995; Moll & Allen, 1982; Worth, 2000).

Moreover, Guiller, Ross and Durndell (2005) reported the role of gender in participation using critical thinking task, and the findings revealed that there is no significant gender difference between male and female art students.

On other hand Alabdullat (2009) found critical thinking ability in induction helped the males to score higher correlation than females. The researchers reported that there was a significant difference also between males and females in CTS. In another study of Alhelfawi (2007) at three universities in Jordan, females showed stronger significant CTS's effect than males.

This instrument is very good to measure undergraduate students because they are going to be "a future leader" and a good leader must have a good critical thinking to solve many problems. Someone who have a high education level, not guarantee he or she also have a good critical thinking. We should measure it first before we can decide. Now in Malaysia, there is no instrument that can measure critical thinking for undergraduate students. But at least this is a good beginning to know the potential undergraduate for government as a decision maker.

## 5. CONCLUSIONS AND SUGGESTION

Based on the study, we can summarize that Malaysian Critical Thinking instrument has a good quality. This is a result of there are only 4 out of 22 items containing gender biased. This connotes only about 22% items that should be disqualified. If we analyze from the mean score, it is known that there is no significant difference between male and female in Critical Thinking Skill of students in University Putra Malaysia. This reflects the instrument is quite fair for both male and female. Further study could be carried out not only based on gender but also based on other factors such as student's demographic status.

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## Quality of Life, Teacher Burnout and Job Stress among Philippine Science High School Teachers

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### ABSTRACT

Teaching in Science high schools in the Philippines can be demanding as the teachers are expected to teach exceptionally talented students. With this, this research aims to investigate on the levels of quality of life, teacher burnout and job stress of science high school teachers in the Philippines of the 11 science high schools supported by the government using standardized instruments that measure the variables. Findings show that quality of life and burnout were significantly correlated,  $r(270) = -.390$ ,  $p < .000$ ; quality of life and job stress were significantly correlated,  $r(270) = -.412$ ,  $p < .000$  and burnout and job stress were significantly correlated,  $r(270) = .662$ ,  $p < .000$ . One-way analysis of variance shows that the teacher's civil status has a significant effect on the teacher's burnout,  $f(1, 268) = 13.63$ ,  $p < .000$  and job stress,  $f(1, 268) = 5.22$ ,  $p < .02$ . Furthermore, one way ANOVA shows that science high school campus location has a significant effect on the teacher's quality of life,  $f(9, 260) = 3.555$ ,  $p < .000$ , teacher's burnout,  $f(9, 260) = 5.223$ ,  $p < .00$  and job stress,  $f(9, 260) = 5.997$ ,  $p < .000$ . Recommendations for stress management, leadership sensitivity and support are given.

Key Words: Quality of Life, Burnout, Job Stress, Teachers for Gifted children

### 1. INTRODUCTION

While teaching is said to be a noble profession, the roles and demands of the profession can be full of tension and pressure. For instance, there are greater demands of a teacher's time and energy and many teachers are forced to do more work with fewer resources. And while doing these selfless acts, they receive very few rewards

and recognition of their efforts. Teachers run the risk of experiencing emotional exhaustion, burnout, and feel a sense of alienation in their chosen field of work and ultimately a perception of poor quality of life. People whose nature of work is in the human service profession, such as teachers, run these risks.

Without a doubt, stress is an inevitable part of everyone's day-to-day lives. It is the body's response to any demand made upon it, may it be positive or negative. Teacher stress was defined by Kyriacou (1989) as 'the experience by teachers of unpleasant emotions such as anger, tension, frustration, anxiety, depression and nervousness resulting from aspects of their work as teachers.' According to Dunham (1983, 1984), he identified stress as arousal and 'burnout'. He characterized burnout as the 'impairment of teacher performance'. In his studies, teacher performance declined from an optimal level as burnout progressed due different factors such as increasing job demands, anxiety, faulty decisions and panic and fatigue. Therefore, a person's perception of his quality of life can also affect his current stress level which may ultimately lead to burnout. According to Baron (1986), he defined burnout as an 'erosion of the human spirit' which results from prolonged, chronic exposure to high levels of occupational stress.

Special education teachers such as Philippine Science High School may face even higher risk to job stress and burnout as some may hold an idealistic commitment to their chosen occupation. Philippine Science High school teachers are given higher tasks than regular teachers. They are tasked to teach scientifically and mathematically gifted children.

Clearly, understanding stress in special education teachers will help identify approaches in which it could be alleviated. There have been a lot of studies made in the recent present that aim to identify job stressors. Different studies have sought ways to increase productivity in the workplace, but there is a lack in qualitative study that focuses on teachers and educators. Although there are several studies that focus on burnout and stress, findings are not summarized into one conceptual framework or theoretical model which can then be tested statistically. It is with equal importance to investigate on the correlation of a teacher's quality of life, teacher burnout and job stress as it will certainly affect the education of our youth. This can incite longitudinal investigation, with a more systematized and enable legislative change in our current educational system.

Another study by Dubham (1983) pointed out that that the initial impact of change caused increased stress for special needs teachers. With a sample of 220 teachers and care staff, the most frequently reported signs of stress were feelings of exhaustion, frustration, sleep disturbances, withdrawal from contact with other staff and tension headaches. This study led to Dunham's to conceptualise stress as arousal or burnout. According to Dunham, burnout is the impairment of teacher performance in which performance declines from an optimal level as burnout processes in the face of increasing job demands. This can include, but not limited to, anxiety, overreacting, agitation, poor concentration, panic and fatigue.

There are also some studies also support the perception that special education teachers are more susceptible to stress than non-special education teachers. A study by Pont and Ried (1985) presented data in which special education teachers were perceived to experience greater levels of stress in comparison to non-special education teachers. A study on 21 teachers and 24 social workers in a residential EBD (emotional and behavioural difficulties) setting displayed signs of increased anxiety

and reported twice as many occurrences of potential stressful events in contracts to 20 non-special needs staff.

In a parallel study by Male and May (1995), they used the Maslach Burnout Inventory to monitor stress in special education teachers. Among the 57 SLD teachers, evidence of high emotional exhaustion was present as well as evidence of low sense of personal accomplishment. Among the 82 mainstream special education teachers, emotional exhaustion and sense of personal accomplishment were at moderate levels. Another study by Cohen (1995) obtained from 78 EDB teachers showed moderate to high levels of emotional exhaustion, the highest level of which are teachers working in combined day/boarding schools. Both studies supported the feelings of emotional exhaustion present among special education teachers. However, both studies provided evidence of a differentiated pattern of results which undermine the global claim about teacher burnout among special education teachers.

Several studies also point out excessive workload as a source of stress for special education teachers. Studies of Male and May (1995) and Cohen (1995) revealed that special education teachers were working around 50 hours per week or more. Staff in residential schools averaged at 54.85 hours per week. While special education teachers in mainstream setting averaged at 46.3 hours per week.

A study by Trendall (1989) confirms workload and lack of time as the most prominent source of stress for special education teachers. The study also revealed that pupil misbehaviour and too much teaching were cited as sources of stress. However, the study also showed that not an overwhelming proportion of teachers expressed dissatisfaction with their job.

Research on special education teachers in USA started in 1980 and was generally more extensive compared to research on United Kingdom. But research in America coincided with study results in Britain wherein special education teachers have been subject to stress at moderate to high levels but does not necessarily constitute burnout. A study by Presley (1982) reported that 91% of special education teachers were not yet experiencing burnout but almost half of the teachers might be approaching it.

A study by Bradfield and Phones (1985) revealed that 85% of special education teachers experienced moderate of high stress because of their occupation. However, for other teachers, aside from job-related stress, they also experienced stress from broader life events. On the other hand, a research in Britain by Trendall (1989) revealed that teacher job-stress was not correlated with their individual stressful life events. Thus, this presents the need for additional research and investigation which aims to determine the risk of fuelling stress generated in school with stress in the home setting.

Another study that used the Maslach Burnout Inventory was the study by Crane and Iwanicki (1986). In this study, the results showed moderate levels of emotional exhaustion and depersonalisation in special education teachers. Such feelings were discovered to be related to role conflict and ambiguity. In earlier research, role ambiguity was associated with low sense of personal accomplishment, which is an aspect of one's quality of life.

Lastly, the correlation of the type of student taught and teacher stress level has been studied in the past. There is a global notion that special education teachers are more susceptible to burnout when compared to regular teachers. However, studies

have garnered different results. Studies by Beck and Garguilo (1983) and Benksy, Shaw, Grouse, Bates, Dixon, and Beane (1980) suggest that regular teachers experience higher stress levels compared to teachers of students with learning disabilities. Another study by Olson and Matuskey (1982) does not present any significant difference between the stress levels of regular and special education teachers. On the other hand, specific facets of burnout may have significant correlation with the type of student taught. A study by Byrne (1991) suggests that teachers in the regular academic program experience higher levels of emotional exhaustion while regular teachers in the secondary level exhibited feelings of reduced personal accomplishment. In the university level, teachers who taught graduate students experienced greater sense of personal accomplishment compared to teachers who taught the undergraduate level.

Specifically, this research investigates the quality of life, teacher burnout and job stress among Science high school teachers in the Philippines. This research aims answer the following questions: 1. What is the level of quality of life, teacher burnout and Job Stress of Science high school teachers as measures by mean and standard deviation? 2. What is the relationship among scores in quality of life, teacher burnout and job stress? 3. Is there a difference in the level of quality of life, teacher burnout and job stress when grouped according to gender, marital status, educational attainment, and campus being taught?

## **2. METHOD**

### **2.1 Participants**

The research participants consisted of 270 science high school teachers in the Philippines. Sampling was done purposively by choosing only the science high school teachers who have taught at least one year on a full time basis. The participants composed of 73% female and 23 % male. The participants were taken from 10 different science high schools around the Philippines.

### **2.2 Research Design**

This research is quantitative in nature. It will make use of non-experimental methods using surveys on quality of life, teacher burnout and job stress. It will make use of mean, standard deviation, multiple correlation and ANOVA. The research will focus on using gender, civil status, educational attainment and campus as its independent variables and the teacher's quality of life, burnout and job stress as dependent variables.

### **2.3 Measures**

This research made used of three instruments: quality of life scale, teacher burnout and job stress. The quality of life scale is a 26 item scale developed by the World health organization. The instrument demonstrated high internal consistency with a Cronbach alpha (.05) of 0.879.

The teacher's burnout scale is a 20 item scale developed by Richmon, Wrench & Gorham (2001). For this research instrument demonstrated high internal consistency with a Cronbach alpha (.05) of 0.946. The Job stress scale is a 65 item scale developed by the Abhor family counselling. It demonstrated a high internal consistency with a Cronbach alpha (.05) of 0.971.

### **2.4 Procedure**

Data was collected by obtaining consent from the Philippine Science High School

System. The survey was then distributed to all the Philippine Science High School campuses. The teachers were asked to complete 3 surveys relating to quality of life, burnout and job stress. They were also given an option to fill up an online survey to expedite the collection of data. All the data were mailed back to the researchers for data analysis.

### 3. RESULTS

The results show that there was a correlation among the dependent variables. The teachers quality of life and teacher burnout surveys were significantly correlated,  $r(270) = -.390$ ,  $p < .00$ . The teachers quality of life and Job Stress surveys were significantly correlated,  $r(270) = -.412$ ,  $p < .00$ . The teachers burnout and Job stress surveys were significantly correlated,  $r(270) = .662$ ,  $p < .00$ . See Table 1.

Using the one way ANOVA analysis with an alpha level of .05, the results show that gender has a significant effect on job stress,  $f(1, 267) = 5.69$ ,  $p < .02$ , while same analysis show that there were no significant effect between gender - quality of life and gender-burnout,  $f(1,267) = 1.77$ ,  $p < .19$ , and  $f(1,267) = 3.19$ ,  $p < .08$ . For the participants' civil status, results show that there was significant effect with burnout and job stress,  $f(1,268) = 13.63$ ,  $p < .00$ , and  $f(1,268) = 5.22$ ,  $p < .02$ . Results also showed that there were no significant effects on the participant's civil status and quality of life,  $f(1,268) = 3.30$ ,  $p < .07$ . The teacher's educational attainment showed that there were no significant effects on the teacher's quality of life, burnout and job stress,  $f(2,267) = 2.08$ ,  $p < .13$ ,  $f(2,267) = .224$ ,  $p < .80$  and  $f(2,267) = .334$ ,  $p < .72$ . The teacher's campus shows there are were significant effect on quality of life, burnout and job stress,  $f(9,269) = 3.56$ ,  $p < .00$ ,  $f(9,260) = 5.25$ ,  $p < .00$ ,  $f(9,260) = 6.00$ ,  $p < .00$ .

Results show that the science high school teachers have high quality of life ( $M=93.47$ ,  $SD= 11.34$ ). Teacher's burnout showed a few burnout feelings ( $M=33$ ,  $SD= 11.40$ ). The teacher's job stress level showed average job stress experience ( $M=114.41$ ,  $SD=31.70$ ).

### 4. DISCUSSION

The results show that gender has an effect on the teacher's job stress. This finding is inconsistent with research by Meng and Guo (2012) such is no difference in teaching, interpersonal communication, external monitoring, competition and promotion and development among female and male teachers. This inconsistency can be brought about by the limited number of male teachers in the Philippine science high school system.

With regard to the teacher's civil status, the results showed that there were significant effects on teacher's burnout. In a research by Toker (2011), single teachers experience higher level of burnout than married teachers. This result was attributed to married teachers having higher personal accomplishment levels than single teachers. In a research by Güllüce (2006) on small business managers wherein results showed that that married managers experienced higher burnout on the emotional exhaustion and apathy levels (as cited in Ozan, 2009). However, there are studies Ozan (2009), Silig (2003), Baysal (1995) and Cam (1991), showed that there is no significant effect of marital status to teacher's burnout.

The results also showed a significant effect on the teacher's civil status and job stress. This result is inconsistent with earlier research by Sen (1981), Kumar (1989)



(as cited in Cordoso and Fernandes, 2011). Similar to teacher burnout, married science high school teacher might attribute less stress than single teachers partly due to their higher personal accomplishments. Married teachers have their partners to help them in dealing with stress.

With regard to educational attainment, results show that there was no significant effect on the teacher's quality of life, burnout and job stress. However, according to a study by Blaug, Kenyon and Lekhi (2007), statistics show that educational attainment has an effect on the person's stress level. Stress level increases in line with the higher level of educational attainment. This might be due to more workload are given to people with higher educational attainment since they are more equipped in handling higher tasks.

Lastly, the result showed that the campus where the science high school teachers teach has a significant effect on the teachers' quality of life, burnout and job stress. There are numerous causes that can be attributed to this significance. According to most science high school teachers, one factor that affects their stress level are their administrators. A teacher mentioned that teaching gifted children is not stressful. It is their supervisors that are giving them stress.

The research is limited to science high school teachers in the Philippines. This does not cover all the high school teachers in the Philippines. The study was limited to a quantitative approach due to the number of participants.

The results in this research would be beneficial to science high school teachers because helps determine the factors that affect their level of stress and burnout. Consequently, these factors prevent teachers from giving their best performance in their work. The result of the study will surely contribute to improve teaching competence. The results of the study can also help Department of Education to come up with programs that can help teacher deal with stresses effectively. The department must look into ways into eliminating the tension between the administrators and teachers. Guidance counsellors will be able to create appropriate programs to alleviate various problems that add to the stress of teachers. Programs should be focus on stress management, leader sensitivity and support.

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## The Role of PhD in a University Career?

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### ABSTRACT

Professions in many instances have what is ostensibly a discipline credential, as a compliance hurdle which acts as an invitation, as a certification to enter the sanctum of a profession (cf. Electricians, Builders, Medical, et al). Is the compliance hurdle for a university career the PhD? Is there also then a difference between credentialing and certification?

For many professions the credential is the entry point for certification which is then followed, one would hope, with continuous professional development. However, for a university academic career the credential is not a completed study in educating (teaching) but a completed study in disciplinary knowledge as a PhD researcher. In part, this is a conflict to the teaching or corporate roles of the majority of 21st century academics in the higher education setting. There seems to be political or notional specification that PhD covers all three aspects of an academic (teaching, research and discipline knowledge).

The requirement for a PhD for progression in an academic career therefore seems to have little to do with profession and much to do with perception. We can now question the role of PhD in the university and propose the scenario that tertiary education is accepting, without question, a credentialing demand that has little to do with function and more to do with perceptions. This paper provides results of a study of position descriptions (advertised) for academics within the higher education sector.

Keywords: Certification, Credential, Higher Education, PhD, Teaching Academic

### 1. INTRODUCTION

It is generally accepted within higher education institutes in Australia that a PhD is a necessary requirement for entry and promotion in the Academic profession (Goedegebuure et al, 2009). This appears to be a basic requirement not confined to institutes in Australia but also in other countries (Disposable Academic, 2010). However does a PhD adequately prepare people for the academic profession? This paper will attempt to answer this question by comparing the following aspects:

- the explicit and implicit learning outcomes of a PhD
- the role of academics in tertiary education (at entry point levels)
- the essential criteria advertised for entry point academics in Australia

Each aspect will be addressed individually in this paper before comparing them to question the role of PhD in the university and whether tertiary education is accepting, without question, a credentialing demand that has little to do with function and more to do with perceptions.

## 2. IMPLICIT AND EXPLICIT LEARNING OUTCOMES OF A PhD?

In order to understand the validity of the PhD requirement as a credential and a certification it must first be understood what learning outcomes are derived from a PhD and whether these learning outcomes are sufficient to address the role of an academic. It has been stated that a PhD is, in effect, training for a job in academia (Disposable Academic, 2010), however, as outlined in Table 1, this type of training is relevant for a particular field of knowledge and the type of research is relevant for that particular study.

Citing appropriate literature, this section will provide an overview of PhD learning outcomes. This will include explicit learning outcomes (derived from the 2011 Australian Qualifications Framework (AQF)) and implicit learning outcomes (derived from perceptions found in the literature).

The learning outcomes of a PhD are defined in the 2011 AQF as graduates having a “systematic and critical understanding of a complex field of learning and specialised research skills for the advancement of learning and/or for professional practice” (p.18). The research skills are further elaborated as “the defining characteristic of the Doctoral Degree qualification” (p.63). Table 1 summarises some of the key learning outcomes outlined in the 2011 AQF.

Table 1: Australian Qualifications Framework (AQF) 2011 learning outcomes summary

<b>Doctoral Degree Learning Outcomes - Graduates will have:</b>
Systematic and critical understanding of a substantial and complex body of knowledge at the frontier of a discipline or professional practice
Expert cognitive, technical and research skills in a discipline area
Expert understanding of theoretical knowledge (critical reflection, synthesis and evaluation)
Substantial knowledge of research principles and methods
Systematic investigation skills to generate original knowledge
Authoritative judgement, adaptability and responsibility as an expert and leading scholar or practitioner
Communication skills to explain, critique and present research including complex investigations, theories and methodologies

As shown in Table 1, the emphasis is predominantly on developing research skills within a body of knowledge relevant to the student. However, the question remains on the relevance of these skills in the professional world which includes teaching academics, “Business leaders complain about shortages of high-level skills, suggesting PhDs are not teaching the right things” (Disposable Academic, 2010). It is argued that giving academic presentations and conducting extensive and time consuming literature reviews “can be surprisingly unhelpful in a world where technical knowledge has to be assimilated quickly and presented simply to a wide audience” (Disposable Academic, 2010).

Learning outcomes can often be implied due to society’s perceptions and industry expectations, or a mixture of both. A perceived outcome from completing a PhD is that it adds credibility to an Academic’s career (Lawhern, 2002). In response to the question “why someone would want to have a PhD?” Lawhern reported that it would “establish oneself as a credible expert deserving of professional prominence, state licensure, or higher salary.” The risk, however, is that the knowledge acquired from a PhD may be quite narrow or specific within “specialised niches of theory” (Lawhern, 2002).

The next section provides an exploration into the different aspects associated with the academic profession in Australia. This will be followed by a snap shot of the essential criteria for academic positions as advertised publicly.

### 3. THE ROLE OF THE ACADEMIC

This section provides a general overview on the role of the Academic in Australian universities. Commonly, entry point academics in Australia are employed in roles that involve teaching or as research assistants. The roles are quite different and, although briefly touched on here, will be expanded further in the next section of this paper. A simplistic but important distinction however, is that academics employed for teaching (teaching intensive academics such as lecturers and tutors) focus on both teaching and research whereas academics employed as research assistants (research intensive academics) focus primarily on research.

Teaching intensive academics often have three primary aspects to their role: teacher; researcher; and discipline knowledge expert; with a possible fourth aspect on administrative components. These aspects are not all treated with equal merit and emphasis may differ from one university to another however common themes from the literature are explained.

With the exception of research intensive academics, one of the primary functions of an academic is to teach (Akerlind, 2011; Coates et al, 2009; Lister, 2008; McAlpine & Akerlind, 2010). However, these academics are not required to have teaching credentials. Commonly, academics are “not guided by any teaching literature; instead we simply follow our instincts” (Lister, 2008, p.3).

It appears that the role of the teaching intensive academic is not developed holistically, instead the teaching component is often considered independently from other aspects of an academic’s work (Akerlind, 2011). It has been recognised that the academics developmental needs extend to areas other than teaching such as leadership and management skills, and research supervision skills, however this is done “in isolation from teaching development” (Akerlind, 2011 p.183).

Table 2: Summary of key development aspects for academics and teachers

Developing as an Academic		Developing as a Teacher	
Key Aspects	Validation Source	Key Aspects	Validation Source
Work Productivity	Focus on external	Comfort with teaching	Focus on internal (to build confidence)
Academic Standing	Focus on external	Teacher’s knowledge and skills	Focus on internal & external (teaching practice) e.g. expand content knowledge, teaching materials and/or strategies
Work Quality	Focus on external & internal	Students’ learning outcomes	Focus on external (students) i.e. improving students’ learning and development
Breadth of knowledge and skills	Focus on external & internal		
Depth of understanding (of own academic field)	Focus on external & internal		
Contribution to a field or community	Focus on external & internal		

(Akerlind, 2011, pp.185-187)

Table 2 provides a summary of Akerlind’s observations on the key aspects for development of academics and of teachers and how these aspects are validated. It

highlights that the fundamental role of teaching is viewed separately to the role of an academic. A feature of Table 2 is the validation source of each aspect and relates to the “source of validation where development has occurred (Akerlind, 2011) either externally (colleague-based for academics or student-based for teachers) or internally (self-based).

It was observed by Akerlind that academics can “hold a more complex or complete understanding of growing and developing as an academic holistically than of growing and developing as an academic teacher” (Akerlind, 2011 p.190). For example, external validation for academic standing, breadth of knowledge or depth of understanding can be validated through research output in terms of publishing academic papers, funding proposals and submissions, however, other achievements in academic work can be hard to measure (Goedegebuure et al, 2009; Goodman-Delahunty & Walker, 2010).

It could be argued that developing and growing as a teacher may be more limited than developing and growing as an academic. However, isolating developing as a teacher from the broader aspects of developing as an academic “may lead to a narrowing of awareness” (Akerlind, 2011, p.193). This separation of teaching and research aspects can result in a conflict for the academic which potentially inhibits both activities (Lister, 2008). Yet, these core activities are integral to how academics develop and communicate knowledge (Hammond, 2009).

Prevalent in recent years, teaching intensive academics have experienced an increased need to “juggle teaching, research and administrative duties” (Coates et al, 2009, p.52). Academics spend majority of their time on teaching, and almost equal time on administration as research. Although research increases over non-teaching periods, administrative and clerical duties take up a significant amount of time (Goedegebuure et al, 2009; Goodman-Delahunty & Walker, 2010). The impact is a reduction to the desirability of academia as a profession “at a time when the need to attract young people to this work has never been more acute” (Coates et al, 2009, p.52) due to rises in staff-student ratios (Goodman-Delahunty & Walker, 2010).

The main response from university management is to hire more casual staff, often resulting in added “pressure on the permanent academic staff member responsible for subject management and casual staff supervision” (Coates et al, 2009, p.53). According to Coates et al, there should be “stronger focus on the teaching function itself through enhanced training and support for those at the coalface” (p.53). A sentiment shared by Goedegebuure et al (2009) who believes there needs to be “a much greater or complementary emphasis on teaching” (p.60).

Despite the predominant workload being teaching and administrative duties, teaching intensive academics in Australia maintain a strong preference towards research over teaching (Goodman-Delahunty & Walker, 2010). The misalignment between academics’ research aspirations and actual workload activities “suggest that the policy structures that underpin academic work, both institutionally and nationally, require review” (Goedegebuure et al, 2009, p.60). One such practice is the requirement of a PhD credential for entry point academics or promotion in Australia (Goedegebuure et al, 2009). This PhD requirement is usually advertised in academic positions along with other essential criteria as explained in the next section.

#### 4. ADVERTISED CRITERIA FOR AN ACADEMIC IN AUSTRALIA

This section provides an overview of key selection criteria advertised in position descriptions for entry point academics from fifteen Australian universities. The purpose is to outline institutional expectations in relation to applicants entering academia

Entry point academics are usually classified as either level A or level B and fall into one of two categories: research intensive academics (research assistants) or teaching intensive academics (lecturers or tutors). Taxonomy was taken of 46 entry point academic positions advertised from April to July, 2012 across 15 Australian universities. According to the position descriptions, the essential selection criteria were divided into two main areas; qualifications and experience/skills/knowledge/attributes. Common subsets emerged particularly in the area of experience/skills/knowledge/attributes as shown in Fig. 1. It should be noted that not all attributes are shown in the graph because some are assumed across all positions e.g. discipline knowledge and communication skills.

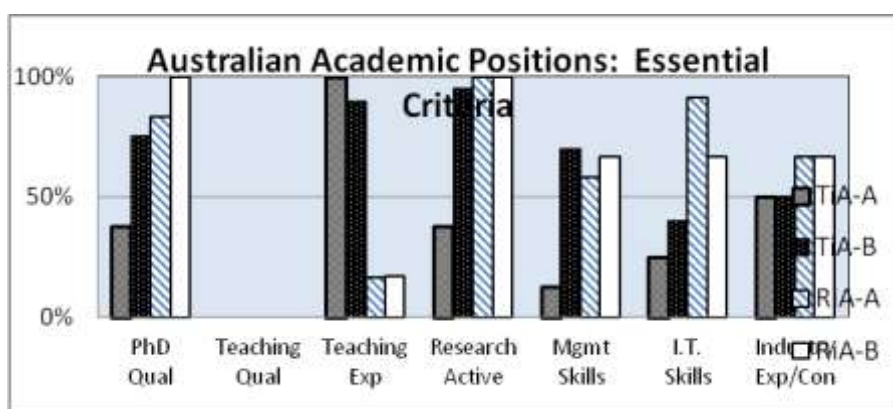


Fig. 1: Academic level A and B advertised essential criteria

Of the 46 position descriptions viewed, 61% are teaching intensive academic positions (lecturers and tutors) and 39% are research intensive academic positions (research assistants). Following is the actual breakdown in terms of numbers:

- Eight (8) teaching intensive academics at level A (TiA-A)
- Twenty (20) teaching intensive academics at level B (TiA-B)
- Twelve (12) research intensive academics at level A (RiA-A)
- Six (6) research intensive academics at level B (RiA-B)

PhD qualifications are highly sought ranging from 75% to 100% (with the exception of teaching intensive academics level A at just 38%). It should be noted, however that promotional guidelines usually require the completion of a PhD credential before progression to level B will be considered by management (Qualifications, 2012). Rarely are academics promoted on the basis of their teaching (Goodman-Delahunty & Walker, 2010).

In relation to being research active, it was not surprising to see 100% requirement for research intensive academics to be research active. Of interest, however is that 95% of the teaching intensive academic positions at level B have the same expectation despite only 75% requiring a PhD qualification.

None of the position descriptions list a teaching qualification as essential criteria

despite 61% being for teaching intensive academics. In fact, only three (3) position descriptions mentioned a teaching qualification as 'desirable' (not shown in Fig. 1). Despite teaching intensive academics not requiring a teaching qualification, the requirement for teaching experience is prevalent (90%-100%). However, the type or breadth of teaching experience was rarely explained beyond applicants needing disciplinary knowledge.

The essential criterion of management (Mgmt) skills is in reference to: research (leadership, supervision, projects); people; and finance. For research intensive academics management was primarily in the area of research projects while teaching intensive academics at level B, management was predominantly in relation to people, research leadership and supervision. Level A teaching intensive academics had almost no responsibility in this area.

The final two essential criteria shown in Fig. 1 are Information Technology (I.T.) skills and industry experience/contacts. I.T. skills ranged from traditional Microsoft packages such as word excel and PowerPoint to more discipline specific software packages e.g. relevant to accounting or programming. The industry experience/contacts essential criteria relates to applicants having hands-on industry experience in a specific discipline such as marketing or applicants having current industry contacts e.g. professional bodies/groups.

This section provided an overview of some of the key selection criteria advertised in position descriptions for entry point academics. The next section will investigate what emerges when this is evaluated against PhD learning outcomes and the academic role.

## **5. DATA METHODS AND COMPARATIVE ANALYSIS**

In this section a comparison is made utilising information gleaned from the previous three sections: PhD learning outcomes; role of the academic; and advertised essential criteria. The purpose is to analyse whether institutional expectations on essential criteria are aligned with the role of academics and with PhD learning outcomes.

A technique adopted in this social research is to apply some of the basic uses of qualitative comparative analysis (QCA) such as summarising data "as a tool for data exploration and typology-building" (Rihoux, 2006, p.683). A taxonomy was created on a topological analysis of data derived from the Australian Qualifications Framework (AQF) 2011 doctoral degree learning outcomes; literature on the role of the academic; and the key selection criteria advertised in position descriptions for academics at levels A and B.

Limitation in this piece of research is to investigate teaching intensive academics only. It could be argued that research intensive academics have suitable professional development acquired through completing a PhD credential however the same could not be said for teaching intensive academics (Goedegebuure et al, 2009; Lawhern, 2002). The primary focus for doctoral qualifications in Australia is research and this permeates into the academic workforce however, "whether this is what Australian higher education needs in terms of students and employers' expectations is an entirely different matter" (Goedegebuure et al, 2009, p.59).

Data relating to teaching intensive academics was categorised and summarised for



portrayal in a diagrammatical representation depicted in Fig. 2.

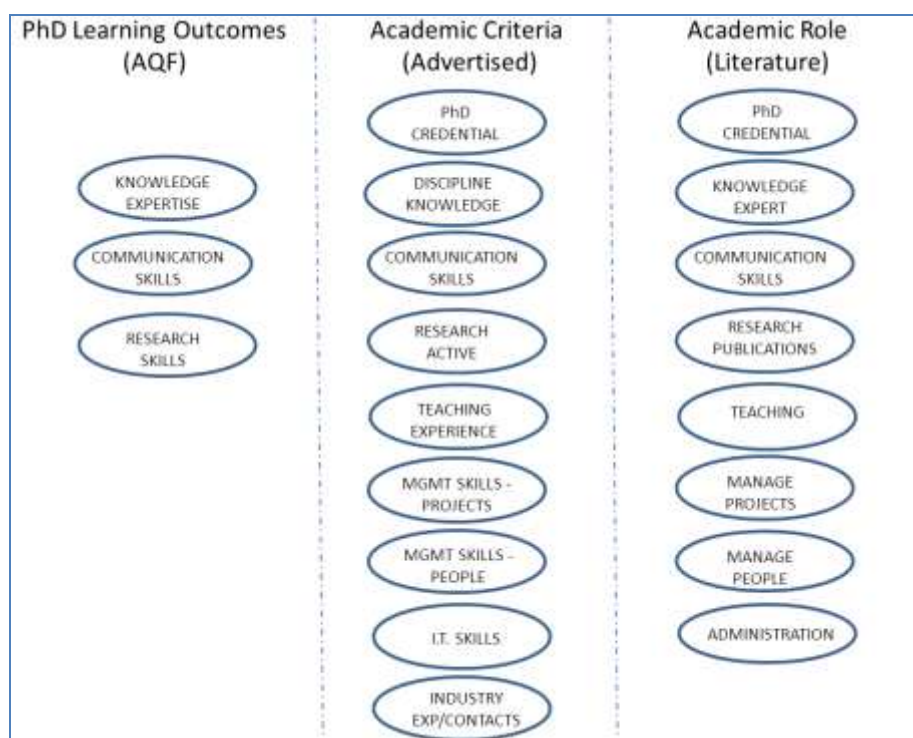


Fig. 2: Taxonomy for entry point teaching intensive academics

As shown in Fig. 2 the explicit learning outcomes for doctorate degrees (AQF, 2011) are classified into three categories: knowledge expertise; communication skills; and research skills. These three categories are also present in the advertised academic criteria and the literature for academic roles. Of importance is the number of added categories found under academic criteria and the academic role for which a PhD credential is not designed to meet the needs of.

We can now question the role of PhD in the university and propose the scenario that tertiary education is accepting, without question, a credentialing demand that has little to do with function and more to do with perceptions.

## 6. CONCLUSIONS

In this study we posed the question on whether a PhD credential adequately prepares people for a career in academia as teaching intensive academics. A primary learning outcome from completing a PhD is predominantly on developing research skills within a particular body of knowledge (Australian Qualifications Framework, 2011).

It was found that majority of jobs advertising for entry point academics require a PhD qualification (Goedegebuure et al, 2009) regardless of the diversity of the actual role as shown in the literature. The assumption that teaching intensive academics are inherently versatile is particularly prevalent in areas such as teaching, management skills and administration. Yet, these areas are seldom seen as sufficient for promotion. It appears the primary avenue for advancement in Australian universities is research output such as PhD, publications and research grants (Goodman-Delahunty & Walker, 2010).

Teaching experience, although listed as necessary criteria is rarely qualified beyond discipline knowledge. There are no essential requirements for an education

qualification despite one of the main functions being to ‘teach’ (Akerlind, 2011; Coates et al, 2009; Lister, 2008; McAlpine & Akerlind, 2010). It should be noted however, that in recent years some universities in Australia have moved to a condition of employment being enrolment into a teaching qualification if an applicant does not already have teaching certification.

This study was deliberately confined to entry point academics. Future research will investigate corporate academic roles at levels C to E to compare whether institutional expectations and credential requirements are aligned with the corporate role as reported in the literature and promotional guidelines. It is also the authors’ intention to extend this research worldwide i.e. beyond Australian universities.

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**Formative Assessment Techniques: Innovative Assessment methodologies and tools for raising the achievement of low ability students in Cross River State, Nigeria, West Africa**

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**ABSTRACT**

The issue of assessment method and its utilization is very crucial for the survival and relevance of the school system. The focus on innovative assessment methodologies and tools is both appropriate and timely in view of the outcry of consumers of school products about its quality in our society. The paper explores the concept of formative assessment techniques, examines its utilization in Nigeria, using Cross River State as a study area, whose teachers' population is 5,772 from the 258 public secondary schools. It uses stratified random sampling technique and Teachers' Opinion Questionnaire to collect data across public secondary schools in the State, presents its results and proposes innovative ideas that are believed to have the potentials of raising the academic achievement of low achievers and to improve the general quality of our nations' secondary school system. The study further makes recommendations which if properly implemented could improve the present daunting academic situation in Nigeria.

Keywords: Formative, Innovative, Assessment, Achievers, methodologies

**1. INTRODUCTION**

The issue of standards is quite crucial in any organization. Maintenance of standards is central to the development, progress and well being of any organization, particularly for the protection of the consumers of the products from such organizations. The school system is an enterprise whose products are 'refined' human beings. To this effect, school education is seen as the hub of developmental activities of a nation. Little wonder the "Federal Government of Nigeria has adopted education as an instrument par excellence for effecting national development" (National Policy on Education (NPE), 2004 p.4). Her national objectives are directed towards self-realization, individual and national efficiency, economic, scientific and technological progress, among others.

In pursuance of these laudable objectives, she has decided on adoption of Continuous Assessment in school to maintain standards for certification. For instance, both the Junior School Certificate (JSC) and Senior School Certificate (SSC) shall be based on continuous assessment by the schools and examinations conducted by external bodies (NPE, 2004 Revised). A similar assessment practice was introduced in United Kingdom (UK) in 1988 by the National Curriculum Task Group on Assessment and Testing (TGAT). The TGAT recommended as follows:

*That assessment should be an integral part of the education process, continually providing both 'feedback'*

*and 'feed forward' and ought therefore to be systematically incorporated into teaching strategies and practices at all levels (Smith, 2007 p.165).*

According to Joshua (2004) the concept of assessment was first used or applied on people before its extension to institutions, activities, processes and other things. In this perspective, assessment was perceived as any systematic means for making inferences about characteristics of people, usually based on many sources of evidence. It was seen as a global process of combining separate information about individuals in order to understand and describe them better. Assessment is a means of controlling the quality of education, its progress and product.

Continuous assessment as recommended by TGAT (1988) and NPE (2004) has four major characteristics which are as follows: it is systematic, it is comprehensive, it is cumulative and it is guidance-oriented. It involves the use of test, testing and measurement, but various sources of information, both formal and informal may also be applied in the process. Thus, assessment subsumes test, testing, measurement and evaluation of the cognitive, psychomotor and affective traits and characteristics (Brown, 1983; Denga, 1989; Nenty, 1997 and Joshua, 2004).

Although in contemporary literature and practice, assessment goes beyond individuals, the scope of this study centered on individuals with particular emphasis on the secondary school system.

Black and Wiliam (2003) states that researchers who have studied formative assessment techniques and their impact on the learning process recommend that schools and teachers should consider implementing four changes in their work: (i) question-and-answer interactions (ii) providing effective feedback (iii) peer and self-assessment by pupils and (iv) involving the pupils in their own assessment.

At the end of assessment there is value judgement called evaluation. It is a systematic process of collecting, analyzing and interpreting data to determine the extent to which students are achieving instructional objectives. The value judgement is usually based on predetermined criteria or standards (Gronlund, 1985). It is through evaluation that concepts such as 'achievers' and 'underachievers' as pertain to students performance have come to be.

Isangedighi (2007) asserts that schools have underachievers because they have set common criteria with which educational efforts are measured. In schools, for instance, students' lives are regulated in a way that gives credence to the belief that they are expected to learn the same things, study at the same rate, have interest in the same activities and perform at the same level in examinations. By analogy, it is to say that children of the same age should be able to run at the same speed, be able to carry the same load or enjoy the same game. In real life situation, this is hardly ever the case, and that is a major reason why underachievers abound in our schools (Isangedighi, 2007).

The questions now: How can the gap between the 'achievers' and the 'underachievers' be close in our schools? What are the observed lapses in the application or utilization of formative assessment methods and tools towards aiding underachievers in the secondary school system?

### **Statement of the problem**

In the school system there are various people or learners with different learning

difficulties, resulting in differential achievement levels. Thus, the study aimed at examining the concept of formative assessment in raising the achievement of students, particularly those of lower ability at the secondary school level in Cross River State, Nigeria.

### **Purpose of the study**

Specifically, the study (i) examined the relevance of formative assessment towards helping underachievers; (ii) determined lapses in rich questioning techniques in the course of instruction (iii) examined the lapses in feedback-by- marking on students' notebooks, test and examinations.

### **Research questions**

Answers were specifically sought to the following questions:

- i. What is the relevance of formative assessment in helping the underachievers in secondary schools?
- ii. What are the observed lapses in applying rich questioning techniques by secondary schools teachers?
- iii. What are the observed lapses in the application of feedback by marking in students notebooks by secondary schools teachers?

## **2. METHODOLOGY**

The study adopted survey design and the entire Cross River State was stratified into three educational zones – Calabar (Southern) zone; Ikom (Central) zone and Ogoja (Northern) zone. Through stratified random sampling technique 253 teachers were selected from a population 5,772 teachers in the 258 state public schools. About 15 percent of the teachers' population from each zone was used in the sample, 39 schools were systematically selected from the list of schools obtained at the Cross River State Secondary Education Board (CRSSEB).

Teacher Opinion Questionnaire (TOQ) was an instrument adopted for data collection. For ease of administration of the instrument, the researchers recruited and trained two field assistants. For the 253 administered questionnaires, 250 were retrieved and analyzed using frequency counts, percentages and weighted means. Four point Likert scale was used in scoring the items of the questionnaires with Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2 and Strongly Disagree (SD) =1 for all positively worded items and the reverse was the case for all negatively worded items.

Table 1: Zone by zone distribution of teachers in public secondary school, Cross River State

Calabar zone		Ikom zone		Ogoja zone	
LGA	No of Teachers	LGA	No of Teachers	LGA	No of Teacher
Akamkpa	283	Abi	231	Bekwara	170
Akpabuyo	193	Boki	322	Obanliku	190
Bakassi	55	Ikom	454	Obubra	421
Biase	236	Obubra	281	Ogoja	392
Calabar South	472	Yakurr	426	Yala	305
Calabar Municipality	978	Etung	150		
Odukpani	213				
Total	2430		1864		1478
Grand total	5772				

\*Technical schools were not included

Source: Cross River State Secondary School Management Board, March, 2011

### 3. METHOD OF DATA ANALYSIS

The research questions were answered descriptively with the aid of frequency, mean and standard deviation.

Research question I: What is the relevance of formative assessment in helping the underachievers in secondary schools?

Table II: Relevance of formative assessment for underachievers in secondary schools.

#### Section A of TOQ

S/N	Statement	SA	A	D	SD	Weighted mean	Q	Decision
1.	Formative assessment assists in determining causes of persistent learning difficulties.	150	84	10	6	3.5	0.68	Accepted
2.	Formative assessment provides feedback to reinforce learning.	121	99	12	8	3.2	0.66	Accepted
3.	Correction of learning errors are ensured through formative assessment.	109	104	27	10	3.2	0.64	Accepted
4.	Teachers contributions to student's certificate is guaranteed by formative assessment.	60	96	54	40	2.7	0.91	Accepted
5.	As part of teaching and learning the time spent for formative assessment is worthwhile.	101	129	12	8	3.3	0.01	Accepted
6.	Formative assessment helps in placement of students	112	98	26	14	3.2	0.65	Accepted

The questionnaire sought the opinion of teachers as to the relevance or otherwise of formative assessment towards helping to underachievers in the secondary school system in Cross River State. For each item, the mean of the aggregate of the weights representing the ratings on the item represents the degree to which the item is considered to be relevant. The weighted mean score is preferred and used in this study because of the inherent limitations of the other measures of central tendency.

As a decision rule, an item that failed to attract mean rating score of 2.5 or more is regarded as not relevant in aiding underachievers. It can be observed from Table II that the mean scores of the six items range between 2.7 with standard deviation of 0.91 and 3.5 with a standard deviation of 0.68. This suggests that the respondents seem to be in agreement that formative assessment is a relevant aid for underachieved students.

**Research question II:** What are the observed lapses in applying rich questioning techniques by secondary schools teachers?

The answer to this question is as presented in Table III. A lapse, by definition, refers to a deviation or departure from the basic necessity. Thus, lapses in the application or utilization as used in this study are those “left out” but necessary tools that should have aided underachievers in the course of instruction.

Table III: Lapses in the application or utilization of rich questioning techniques by secondary schools teachers.

SECTION B OF TOQ								
S/N	Statement	SA	A	D	SD	Weighted mean	Q	Decision
1.	I always assess my students at the end of the lesson only.	20	56	91	86	3.0	0.69	Accepted
2.	I do not always divide my lessons into smaller units for bit by bit assessment.	36	54	89	71	2.8	0.71	Accepted
3.	Asking questions in the course of teaching delays my teaching/time.	34	68	80	68	2.7	0.70	Accepted
4.	I always focus my classroom questioning on the bright students who make the class lively.	38	90	78	54	2.6	0.75	Accepted
5.	I do not always ask simple and direct questions in class.	16	90	86	38	2.4	0.81	Rejected
6.	I always direct my questions to the whole class without calling on any individual.	36	56	87	71	2.8	0.76	Accepted
7.	Blending simple and difficult questions during instruction does not fish out the bright ones in the class so I avoid it.	24	90	76	60	2.7	0.71	Accepted

It could be observed from Table III that all the 7 listed lapses in the application of rich questioning techniques were actually not practiced in our secondary schools. The table indicates that the weighted mean ranges from 3.0 to 2.6. for items 1, 2, 3, 4, 6 and 7 of Section B of TOQ with a standard deviation of between 0.69 and 0.75 which are above 2.5 were accepted as being high, whereas only item 5 with a weighted mean of 2.4 and standard deviation 0.81 was rejected for being below the 2.5 weighted mean.

**Research question III:** What are the observed lapses in the application of feedback by marking?

The term feedback by marking involves the use of comment-only marking. This provided students with the opportunity to identify what they have done well and what

still needed to be improved (Smith, 2007). Table IV represents Section C of the TOQ which elicited information on the lapses by teachers in the application of feedback by marking in schools.

Table IV: Lapses in the application feedback-by-marking technique by secondary schools teachers. Section 'C' TOQ

S/N	Statement	SA	A	D	SD	Weighted mean	Q	Decision
1.	I have never commented on students notebooks.	47	99	78	26	2.3	1.2	Rejected
2.	During marking students test/assignments I always do positive marking by making a tick on the right answer only	36	58	85	71	2.8	0.74	Accepted
3.	I always make a tick on the correct answer and mark nought on the wrong answer only while marking students' exercises.	19	57	91	83	3.0	0.70	Accepted
4.	I am yet to imbibe the practice of making remarks on students' workbooks.	16	91	86	39	2.4	1.1	Rejected
5.	In my class, marking of students' class tests are always done by exchange of students' papers among themselves.	34	67	81	68	2.7	0.76	Accepted
6.	Making remarks on students' exercise books is time consuming.	24	90	75	61	2.7	0.75	Accepted

As stated earlier the decision rule for accepting a weighted mean score as being significant is 2.5 or more. From Table IV (SECTION C of TOQ) items 2, 3, 5 and 6 have high mean scores between 3.0 and 2.7 with a standard deviation range of 0.70 to 0.72. This indicates that the teachers did not apply feedback by marking technique of formative assessment while item 1 and 4, that is, 2 items out of 6, were rejected since their mean scores were 2.3 and 2.4 respectively.

#### 4. DISCUSSION of RESULTS

The present study explored the concept of formative assessment techniques and examined its utilization in Cross River State. The first question addressed by the study tried to examine the relevance of formative assessment as a tool for helping the underachievers in the secondary schools. Results on Table II showed that formative assessment is a very relevant tool for monitoring learning and assisting the lower ability learners in our secondary schools. The response in Section A of TOQ show the importance of formative assessment. For instance item 1 of the questionnaire which stated thus: formative assessment assists in determining causes of persistent learning difficulties, has the average response of 3.5 on a 4 point scale. This



response is in agreement with the motive of continuous assessment as recommended (TGAT, 1988, NPE, 2004 and Smith, 2007) that assessment process should be continuous and providing 'feedback' and 'feedforward'.

The second question which sought information on lapses in the application of rich questioning techniques by teachers was analysed and the results indicate that many teachers did not apply rich questioning technique in their teaching. For instance, item 3 in Section B of TOQ which stated as follows: Asking questions in the course of teaching delays teaching programme. The weighted mean score by the respondents was 2.7 and a standard deviation 0.70. This implies that most teachers did not consider testing as an integral part of the teaching process and therefore did not practice it. This is against the principle of formative assessment which according to Black and Wiliam (2003) should involve question-and-answer interactions. Again, without regular assessment the underachievers in our schools may not be properly guided and oriented (Brown, 1983; Denga, 1987; Nenty, 1997 and Joshua, 2004).

The third question examined the lapses in the application of feedback-by-marking of students work. The responses showed that many teachers rarely make helping remarks on students' classwork. This is evidenced in the responses of teachers used in this study. Item 3 of Section C of the TOQ states: I always make a tick on the correct answer and mark nought on the wrong answer only in the course of marking students' exercises. On a 4 point scale, this item recorded a weighted mean of 3.0 and standard deviation of 0.70. This shows that many teachers do not make aiding remarks on students performance more especially for the underachievers. This is against the principle of continuous assessment which encourages or recommends the practice of feedback as a formative assessment tool. Black and Wiliam (2003), and Joshua (2004) believed that testing provides effective feedback especially where there are positive comments on the students' performance.

In summary, the study revealed that formative assessment is a relevant process of helping the underachievers in our schools. It was also revealed in the study that a good number of teachers did not use rich questioning techniques and feedback-by-marking to help the lower achieving students in our schools.

## **5. IMPLICATIONS**

The teachers in Cross River State have generally accepted that formative assessment is quite relevant especially as it is used in helping low ability learners. This is possible where feedback techniques are applied. Despite the numerous advantages associated with formative assessment, if it is not properly implemented or applied, its adaptation will make a mockery of the entire school system.

A major purpose of formative assessment is to determine the degree of mastery of a given learning task and to pinpoint part of the learning task not mastered. As the study revealed that a good number of the teachers do not apply good or rick questioning technique, it therefore implies that their assessment of students will be haphazard, substandard and will be difficult for low ability learners to be detected for possible remedial measures.

The finding also revealed that the teachers do not make positive remarks or comments while marking students assignments, their classwork, and even on examination report cards. The implication is that at the end of any assessment the

low ability students will only become aware that they have failed, but how they fail and where the exact problem lies may be hidden to them. The assessment therefore, does not provide the expected or intended succor to the underachievers.

## 6. RECOMMENDATIONS

From the findings of this study, it is hereby recommended that:

1. Schools should set up committees to evaluate tests and examination questions with their marking schemes before they are administered to the students.
2. The school should ensure that teachers make students assignments, tests and examinations scripts, with appropriate remarks or comments, available to the students to enable them learn from their errors.
3. Teachers should be periodically sent on in-service courses for retraining.
4. Workshops and conferences should regularly be organized for teachers on innovation of formative assessment.
5. Tertiary institutions should evolve a more attractive teacher education programme with emphasis on formative assessment.
6. School principals should occasionally organize micro teaching exercise with emphasis on certain basic assessment tools like questioning techniques as well as how to apply feedback by marking, peer and self-assessment among others.

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## **Elements of an Effective Radio-Based Literacy Program: Towards a Community-Responsive Pre-Service Teacher Education**

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### **ABSTRACT**

The study looked into the radio-based literacy program of the College of Education of the University of the Philippines Diliman as a tool for enhancing and supporting literacy skills and practices of parents of grade two pupils from an urban poor community. It focused on the design and the implementation of an effective radio-based literacy program. Descriptive research design was used in gathering and analyzing data that were collected through focus group discussions, individual interviews, and questionnaires. The study shows the program can produce significant educational results and can make a significant difference in family literacy skills and practices if its design, topic plotting, and content are carefully planned and utilized. Also, a radio-based literacy program is best used with other media of communication and with a strong support component that can engage the learners in person to person mode of communication. The study implies that teacher education is an instrument for social transformation. A good and effective radio-based literacy program serves as an impetus for teacher education institutions to find innovative ways to help empower impoverished communities and families, as they work to support their children's academic tasks and roles.

**Keywords:** radio-based family literacy, community-responsive pre-service education

### **1. INTRODUCTION**

Only a small fraction of Filipino schoolchildren have access to high quality education services. This is the reality children face in the country, where more than half of the population lives below the poverty line. Policy makers and different stakeholders highlight access to quality education and effective classroom instruction as some of the basic rights of all children, making priority educational agenda the task of providing schoolchildren with adequate and appropriate early stimulation and intervention to increase their chances of developing literacy and succeeding in current and future school and academic activities.

A vast amount of research over the past years has proven the effectiveness of early intervention for schoolchildren. Its effectiveness is based primarily on its adherence to core principles and best practices, most importantly, those of family-centered orientation, natural environments, and collaborative team processes (Rivadelo, G., 2012). Empowering a community by transforming attitudes, beliefs, and perceptions,

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especially towards schooling and literacy, while providing its members with the necessary enabling experiences and competencies to carry out early intervention through the home, may level the playing field for families and schoolchildren from lower and higher economic groups.

In developing interventions to support schoolchildren's academic tasks and difficulties, different programs were launched by various stakeholders, among which is family literacy from the education sector's end. Family literacy is an educational method based on a common belief that "improvement in literacy skills and overall academic performance will result from continuing education of children and their parents through planned child-parent interactions" (Chance, R., 2010). It is believed that training for parents on how to be the primary teacher and full partners in the education of their children should be provided, as parents are considered to be the primary support of schoolchildren in doing and performing their academic tasks.

The education sector makes use of various media to respond to the call of empowering families in their efforts to become the primary support of their children's education. Television shows on literacy and numeracy are being launched, many of which make use of the children's mother tongue for better transfer of learning. Radio is also used for this purpose, as it is considered one of the most affordable educational technologies available for education and development purposes in developing countries. In Pakistan, for instance, the National Broadcasting Corporation through their Open University has started educational programs on radio. Jumani, N. (2009) studied the effectiveness of such educational radio program and the various strategies it applied for rural education in Pakistan, and has found that "the strategies of **radio** for rural education were appreciable because these infused mobility, widened horizons, and focused attention on the goals and problems of rural people, as it is also used to enhance **literacy**" (p.176). Radio broadcast was also used in Kenya to assist teachers and pupils in learning and improving their English written and oral skills. Odera, F. (2011) notes that radio technology is "viewed by Kenyan teachers as a useful tool for teaching and learning languages like English, French, German and Kiswahili at all levels of education" (p. 961).

The University of the Philippines College of Education (U.P. College of Education) has designed a radio literacy program (*Radyo Edukado*) to help empower impoverished communities and families as they work to support their children's schooling and academic tasks. *Radyo Edukado* is a weekly radio show aired every Monday morning through DZUP (1602 at the AM mode), the university's local radio station. The content of said program is aligned with the goals and course modules of the College of Education's National Service Training Program (NSTP Program). The NSTP Program serves as the extension course of the college's pre-service students, and allows for an alternative, more communitarian approach, in pre-service teacher education instruction. *Radyo Edukado*, or the radio-based literacy program, covers the course content of the college's NSTP program, and thereby serves as a medium where literacy is taught to the parents and the community, so they could in turn support their children's literacy learning and development.

The aims of the said radio-based literacy program is congruent with the objectives of an educational radio broadcast used in teaching and learning, which are also espoused by various education and media theorists, among them Bates (1984). Specifically, these objectives include the improvement of the quality of learning and education, the extension of educational opportunities through alternative or distance learning, the improvement of the quality of classroom instruction, and the teaching of

literacy skills among underprivileged populations.

It is towards this endeavor that this particular study is undertaken. The U.P. College of Education wants to be informed of the essential elements and factors related to the design and implementation of an effective radio-based literacy program. Inasmuch as previous studies have pointed to some of these elements, this research aimed to put into context the discourse and study of a radio-based literacy program to help ensure that any similar efforts of this kind in the future will be appreciative of and favorable to the Philippine context. It is also hoped that the College of Education's pre-service teacher education, through the NSTP (extension service undergraduate course) and the *Radyo Edukado* (radio-based literacy program), will be able to reach out to underprivileged communities to help in the country's efforts towards social transformation.

## **2. METHODOLOGY**

The descriptive research design was used in gathering and analyzing data for the study. This includes interview, questionnaire, and focus group discussion. The area of study was a public school in Quezon City, Philippines whose students and parents were part of the U.P. College of Education's NSTP Program. The content and course modules of the NSTP Program focused on the teaching of literacy skills, and the same was simultaneously aired through the college's radio-based literacy program *Radyo Edukado*. The program aimed to teach the parents of these students basic literacy practices so they could provide support to the literacy development of their children.

The participants were mothers, grandmothers, and other relatives of the public school students who were part of the NSTP program of the U.P. College of Education, three (3) members of the DZUP radio technical staff, members of the U.P. College of Education's radio-based literacy program (*Radyo Edukado*) team, and the two (2) hosts of the radio program.

## **3. DISCUSSION OF RESULTS**

The study found the following to be the vital elements of an effective radio-based literacy program: well-designed program, smooth delivery, appropriate and relevant topic and content, available technical support, and other assistive components. Research questions related to each of the element focused on the following: PROGRAM DESIGN – the script, transition and sequence of topics, design and quality of the program, and areas of improvement; DELIVERY– language of the hosts and guests, flow of topics and discussions; TOPIC AND CONTENT – substance of topics discussed, timeliness of the topics; relevance to children's learning and education, and relevance to family and community learning of literacy practices; TECHNICAL ASPECT – quality in the airing of the radio-based literacy program; and SUPPORT COMPONENT – human resource support in terms of involvement of education pre-service students and their teachers; degree and quality of accommodation of the recipient school, the families, and the community; collaboration between the recipient school and the teacher education institution; collaboration with other media resources; and financial support from funding agencies for sustainability of a radio-based literacy program.

The table on page 5 summarizes the results gathered from the interviews of, and the FGDs with, parents and from the survey and interviews of the radio-based literacy program (*Radyo Edukado*) team, technical staff of the DZUP radio station, and the

program hosts.

TABLE. The Elements of an Effective Radio-Based Program: Research Results and Findings

<p><b>ELEMENTS OF A RADIO-BASED LITERACY PROGRAM</b></p>	<p><b>RESEARCH FINDINGS/DATA</b></p>
<p><b>PROGRAM DESIGN</b> (the script, transition and sequence of topics, design and quality of the program)</p>	<p><b>STRENGTHS:</b></p> <ul style="list-style-type: none"> <li>- coherent script</li> <li>- the inclusion of the teaching of literacy content and skills and of social concerns and issues related to the education of children made the program a very helpful and effective one</li> <li>- good flow, transitions, sequence of topics</li> <li>- hosts did recap of previous topics and episodes and challenged listeners to participate</li> <li>- involvement of teachers and students in the program</li> </ul> <p><b>PROBLEM AREAS:</b></p> <ul style="list-style-type: none"> <li>- to improve in terms of fluidity in discussions</li> <li>- program promotion in social networking sites</li> <li>- the need to incorporate exciting segments like trivia, contest, music, interesting and popular guests</li> </ul>
<p><b>DELIVERY</b> (language of hosts and guests, flow of topics and discussions, )</p>	<ul style="list-style-type: none"> <li>- delivery was clear though a bit fast</li> <li>- one hour program is not enough</li> <li>- language of the hosts and guests was calm and polite</li> <li>- language was easy to understand even if topics were complicated</li> <li>- topics were delivered and discussed using language that even schoolchildren can understand</li> <li>- topics were discussed in a fun and witty way</li> </ul>
<p><b>TOPIC AND CONTENT</b> (substance, timeliness, and relevance of topics to children's education, parents'/communities')</p>	<ul style="list-style-type: none"> <li>- topics were relevant to children's education (literacy skills and content such as reading, writing, numeracy were incorporated in the program and were discussed)</li> <li>- information was easy to understand</li> <li>- topics were relevant and have helped teach parents of the schoolchildren new ways of teaching or tutoring their children at home</li> </ul>

<p>involvement, parents' perceptions of and practices in teaching their children at home)</p>	<ul style="list-style-type: none"> <li>- it made the parents more confident in teaching their children at home</li> <li>- it gave parents ideas on how to motivate children, and for them to avoid using corporal punishment when teaching their children at home</li> <li>- topics were highly informative and it helped that experts were the ones discussing the topics</li> <li>- afforded parents opportunity and venue to meet new friends, other parents, the teachers, and the pre-service education students</li> <li>- made parents learn new things from experts</li> <li>- has motivated children themselves in reminding their parents about such parents role in their education (the kids were the ones reminding parents that the program was about to air)</li> <li>- has sparked a new interest in books and in reading among children and their parents, too</li> </ul>
<p><b>TECHNICAL ASPECT</b> (quality in the airing of the program, preparation of scripts)</p>	<ul style="list-style-type: none"> <li>- scripts should be prepared on an appointed schedule and time to give the hosts and guests enough time to study them and to prepare for airing</li> <li>- consistent effort to ensure quality airing</li> </ul>
<p><b>SUPPORT COMPONENT</b> (human resource, collaboration between recipient school and teacher education institution, collaboration with families and communities, collaboration with other media resources, financial support)</p>	<ul style="list-style-type: none"> <li>- the hosts, the radio-based literacy program team from the U.P. College of Education, the U.P. pre-service education students of the NSTP Program were all very committed to this endeavor</li> <li>- more parents are needed to collaborate with the teacher-educators so they could be helped in their efforts to teach and tutor their children at home</li> <li>- the recipient school should be more supportive of this project</li> <li>- the community leaders could be tapped for collaboration</li> <li>- the need to sustain the airing of the radio-based literacy program even during school breaks and vacation</li> <li>- the need to collaborate with other media resources for collaboration</li> </ul>

	<p>- the need for funding in order to sustain the project (parents did not have radio equipment and the College of Education has to provide them with these)</p>
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The research findings are consistent with the literature and previous studies done on the use and role of media in the teaching of literacy (Bates, 1984; Jumani, 2009; Chance, 2010; Odera, 2011). The findings also support existing literature that showed radio literacy programs to be the most viable in the teaching of literacy, as it is considered one of the most affordable technologies available for education and development purposes in developing countries. The research data also highlighted congruence with the objectives of an educational radio broadcast used in teaching and learning, which include the improvement of the quality of learning and education, the extension of educational opportunities through alternative or distance learning, the improvement of the quality of classroom instruction, and the teaching of literacy skills among underprivileged populations (Bates, 1984). The radio-based literacy program of the University of the Philippines' College of Education, *Radyo Edukado*, was well-received and appreciated by the recipient school's parents, families, and community. The program design, delivery, topic and content, technical aspects, and support component, which are considered to be the elements of an effective radio-based literacy program, were rated highly by the intended recipients.

It is interesting to note, however, that the research has additional data to contribute to the growing literature on radio-based literacy programs. These data center on the highly positive effect the program *Radyo Edukado* has on the parents' perceptions of, and practices in, teaching and motivating their children to learn when they are in their homes. There were apparent changes in parents' views and perspectives on literacy practices at home and in their behaviors towards providing support to their children's literacy learning and development. This provides hope for, as well as insights to, the pre-service education students and the teacher education institutions, as they craft curriculum and instruction towards involving parents, families, and communities in the literacy education and development of schoolchildren.

#### 4. CONCLUSIONS AND RECOMMENDATIONS

The research findings were thus able to show the need for a radio-based literacy program that helps families and communities develop their own literacy, change their perceptions and views on literacy practices, and also alter their behaviors towards providing support to their children's literacy learning and development.

The research has also found another major element for an effective radio-based literacy program: the **INVOLVEMENT OF PEOPLE, FAMILIES, AND COMMUNITY** in the teaching of literacy to schoolchildren. This element bridges pre-service teacher education and the communities and families, which is very much needed in communitarian and familial empowerment towards literacy development. It also connects and aligns teacher education curriculum and instruction with communitarian needs, and gives context and meaning to teacher education as it contributes to efforts of transforming society. Thus, from a purely radio-based literacy program, the University of the Philippines' College of Education's *Radyo Edukado* program has become a **Radio-Based Family Literacy Program** catering to familial and communitarian literacy needs and concerns.



Hence, it is being recommended that, first, this kind of program be sustained and made a large-scale national concern, for it to reach an even wider national audience that will definitely benefit from such program. Everyone who will have an important role in pursuing this program must be serious about it, keeping in mind the important educational problem or issue that they wish the radio-based literacy program will help them solve and must be committed in making a substantial and sustained effort to this end. The radio broadcasting project should not be viewed as a marginal activity owing to its capability to reach a very large number of audience using highly affordable resources. The commitment should be broad-based so that support for the project will continue.

It is further recommended that a radio-based family literacy program would need to align radio content, language, and substance with the parents', communities', and even schools' needs, capabilities, and resources. Moreover, the need to collaborate with other education and media resources is another recommendation, as these will provide a strong supporting component of field workers who can engage the learners, their parents and families in the most important mode of person to person communication.

It also is recommended that consequent research efforts focus on a deeper analysis of the listening and learning behavior and the characteristics and nature of the target audience in order to understand parents', families', and communities' perspectives and beliefs on literacy knowledge and literacy practices.

Finally, and from the teacher education institutions' end, it is hoped that the radio-based family literacy program be included in the pre-service teacher education curriculum as a model or best practice of teacher education's effort to reach out to children, their families and their communities, in its goals of helping transform the larger society into a nation of educated people.

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## From the Three Rs to the Three Cs: A Framework for Environmental Sustainability and Social Justice in Education

By Shaun Chen

As a former student of the Toronto District School Board (TDSB), I grew up in the Scarborough community, attending Brookmill Boulevard Junior Public School, Sir Ernest MacMillan Senior Public School, and Sir John A. Macdonald Collegiate Institute, where I graduated in 1999. In my elementary school, Brookmill, what very little I learned about the environment was centred on the three Rs—that is, to reduce, reuse and recycle. “Do not waste paper,” I remember my grade five teacher telling me, and so I would always write on both sides. Classroom discussions on the environment were around protecting the rainforest, saving the whales, and other popular environmental issues of the day. The year was 1990, exactly around the same time when Ontario school boards began to develop environmental policies that were essentially “a call to action” (Allan and Peach, 2009, p. 13). As I continued through high school, however, that call to action fell on deaf ears. The economic recession took precedence over green issues (Allan and Peach, 2009), and the Ontario government eventually removed environmental studies from the provincial curriculum, sparking deep concern amongst students and educators alike (Chen, 1998).

Just over one decade later, the political landscape has shifted and so have environmental policy and practices at the TDSB. I now find myself at the board table as trustee representing Scarborough-Rouge River, the northeast Toronto riding that encompasses the city’s largest green space, Rouge Park. On October 20, 2009 the board’s newly appointed director of education, Dr. Chris Spence, unveiled “A Vision of Hope,” his plan for Canada’s largest school system. As I observed his PowerPoint presentation, focused at first on student success and the financial stability of the board, I was hopeful for the inclusion of environmental sustainability. After all, the TDSB operates 562 school sites, which undoubtedly leave a large carbon footprint, and, perhaps most importantly, is tasked with educating 257,000 students each year. Then, near the end of the director’s presentation was a green plan for the board: “Go Green: Climate Change Action Plan.” The vision focused largely on facilities-oriented solutions such as renewable energy projects.

Is Dr. Spence’s plan sufficient to address today’s environmental challenges? Are the technical solutions presented in his plan enough to achieve the board’s mandate on environmental sustainability and social justice? I view the director’s green plan as a starting point for the TDSB to address the myriad problems associated with climate change and overconsumption. While the facilities-oriented solutions presented in the plan are formidable and worthwhile, what is clearly missing is environmental education. There is a need to focus on curriculum and community action related to environmental sustainability and social justice. In fact, there are many examples within the board that demonstrate real social change, such as through the EcoSchools program, as well as teaching and learning in the classroom. This is indeed a trend observed across the province; but as stated in *Shaping our Schools, Shaping our Futures*, the provincially mandated report on environmental education: “In the absence of a comprehensive framework for environmental education...these efforts remain fragmented and inconsistent” (Province of Ontario, 2007).

In this paper, I argue for a framework of the three Cs—construction, community and curriculum—needed to support environmental sustainability and social justice at the TDSB. Such a framework needs to be part of the director’s plan and vision for the board, so that system-wide direction, funding and support are provided. To explain what each of the Cs includes, I look to existing examples of programs and initiatives taking place in TDSB schools. In looking at construction, I examine design features of the board’s two newest and greenest schools, Thomas L. Wells Public School and Brookside Public School, both located in the Scarborough-Rouge River riding I represent as trustee, as well as other facilities-related initiatives in the board’s 562 school sites. In looking at community, I discuss the EcoSchools program and what individual schools are doing to develop of a culture of daily green practices. Finally, in looking at curriculum, I examine the recent mandate by the Ontario Ministry of Education for environmental education. By examining the three Cs, I aim not only to identify the benefits of green practices occurring throughout the board, but to also reveal the challenges experienced in each of these areas.

### ***The Director’s “Go Green” Plan***

Before I look examples of each of the three Cs in the TDSB, I begin by reviewing and analyzing Dr. Spence’s “Go Green” plan as a starting point in this paper. In his PowerPoint presentation consisting of forty-nine slides, the director dedicated four slides to articulate his green vision for the board. On the first slide, he set out an “ambition undertaking” for the board to “approve policy and develop a School Energy Plan to align TDSB with Federal Green House (GHG) Emission targets of 20% by 2020 and 80% by 2050” (Spence, 2009, p. 44). Observers of the Canadian government’s targets for reducing greenhouse gases, however, have been quick to point out that the baseline emission levels are from 2006 rather than 1990, when emissions were lower. Canada’s “goals are in stark contrast to Europe’s approach, which proposes to lower greenhouse gas emissions by at least 20 percent below 1990 levels by 2020” (David Ward Phillips and Vineburg LLP, 2007).

Also on the director’s first slide is a plan to “nurture and grow our Eco Schools family” (Spence, 2009, p. 44). Currently the board has 311 schools certified as EcoSchools at the bronze, silver, gold and platinum levels (Toronto District School Board, 2009). There is no commitment, however, to ensure each and every one of the board’s 595 schools is a certified EcoSchool.

On the second slide of the director’s green plan are two points related to facility improvements, including the installation of solar photovoltaic systems in up to twenty schools each year and “a broad range of technologies” such as “geothermal retrofits” and solar PV for school-based swimming pools (Spence, 2009, p. 45). The renewable energy projects, however, are contingent on funding from the Ministry of Education. The focus on facilities-related initiatives continues on the third slide, where the director proposes to collaborate with the City of Toronto on a “Community Energy Plan” in conjunction with the Mayor’s Tower Renewal project (Spence, 2009, p. 46). The Mayor’s initiative presents a timely opportunity for the board to work with the city on increasing energy efficiency for Toronto’s aging infrastructure. The city’s project, however, is focused on “more than 1,000 high rise residential concrete frame buildings” (Miller, 2008, p. 1). As such, the specifics are lacking on how the city’s initiative directly relates to the board’s 595 school sites, except that school grounds will be developed as “host sites for community energy hubs and gardens” (Spence, 2009, p. 46).

The fourth and final slide of the director's green plan talks about mandating once-per-week garbage pick-up at all schools; using the monies saved for tree planting and an environmental fund at each school; and an annual system-wide report on environmental sustainability. Reducing garbage pickup could effectively compel school communities to re-evaluate the amount of waste they produce, although some schools, particularly certified EcoSchools, have already minimized waste. Tree planting, on the other hand, is very much an existing practice through the board's facilities department, which systematically reviews school grounds to ensure adequate trees, grass fields and other greenery.

It is evident from the director's plan that the primary focus is on facility improvements, including greener school sites, provincially funded renewable energy projects, as well as collaboration with the City of Toronto on a community plan for energy efficiency. Such initiatives are important to reducing the board's carbon footprint, particularly those that will bring renewal energy to school sites. In the three Cs framework, these projects fall under the category of construction. The director's plan also includes some social action items, such as EcoSchools and reducing garbage pickup. These initiatives can be included under the category of community. The director's plan thus leaves out one important category in the three Cs framework: curriculum.

Now, I look at examples of the three Cs—construction, community and curriculum—in the programs and initiatives of the TDSB. In doing so, I relate existing practices back to the director's plan, wherever possible, and examine areas of strength as well as concern.

### ***Construction***

Construction—of renewable energy projects, new schools and building additions of energy efficient design, school grounds marked by greenery—offers perhaps the most promise and opportunity for the TDSB to directly reduce its carbon footprint. “Building and retrofitting sustainable schools” is an important part of the board's overall strategy for green facilities (Chen, 2007, p. 2). In fact, 95% of the board's schools are over 20 years old and 37% of them are over 50 years old (Chen, 2007). These numbers imply a significant amount of capital repairs and upgrades needed to update the board's aging infrastructure. Sheila Penny, the board's executive officer of facilities, reports that the TDSB currently has a backlog in excess of \$2 billion needed for capital renewal in its 562 school sites, many of which were constructed during the baby boom era and are now in dire need of repair or replacement (personal communication).

In the staggering \$2 billion of needed capital renewal is an unprecedented opportunity to build, or rebuild, green. The biggest challenge, however, is the board's financial situation, namely, an outstanding capital loan of \$62 million (Sheila Penny, personal communication). Usually, the board keeps a capital reserve of tens of millions of dollars to help pay for capital projects that do not have an identified source of funding. The implication of a capital deficit is that a new initiative can only proceed if there is a source of funding attached to its proposal. Simply put, the TDSB presently does not have the money to pay out of its own pocket for green infrastructure. This perhaps helps to explain why the initiatives around renewable energy sources in the director's plan were contingent on funding from the provincial government. It would not have been feasible from a financial perspective for Dr. Spence to announce any unfunded capital green projects.

Indeed, a November 4, 2009 report from Ms. Penny to the board's Operations and Facilities Management Committee outlined a submission made by the TDSB to the Ministry of Education for renewable energy funding. The report states that a July 31, 2009 Ministry announcement of \$50 million across the province allowed for the TDSB to submit thirty business cases for renewal energy projects, including: "Solar photovoltaic; solar water heating; solar air heating; geothermal heating/cooling; and micro or small wind" (Penny, 2009). An attached list of possible projects included primarily solar-related technologies, as well as four geothermal and one wind project. As the deadline for submissions was the end of October 2009, the Ministry has yet to announce the approval of funding for submitted projects.

In terms of building new schools, however, the board has made significant progress in incorporating environmental sustainability. Since 2005, the board has constructed and opened two new schools buildings in areas of new residential development in the city. Both schools, Thomas L. Wells Public School (opened in 2005) and Brookside Public School (opened in 2007), are located in the Morningside Heights community of Scarborough-Rouge River, the riding I currently represent as trustee. Another new school, a complete rebuild of North Toronto Collegiate Institute, is presently under construction. What makes these schools unique is that they are three of the greenest schools in the TDSB and in the country. All were designed to achieve LEED (Leadership in Energy and Environmental Design) certification, an industry-wide standard.

In 2005, Thomas L. Wells made history as the first school in Canada to be certified LEED Silver (Chen, 2007). Energy efficiency through design and construction is an important feature of Thomas L. Wells, which boasts energy use that is "40% less when compared to a similar structure of standard design" (Chen, 2007, p. 2). A few blocks away at Brookside, such unique design features as "a green roof, energy-efficient lights, displacement ventilation, and windows positioned to maximize airflow and daylighting" helped propel the new school to a LEED Gold rating after it opened its doors in 2007 (Chernos, 2008, p. 1). Outside of the school, storm water is collected underground in a concrete cistern and subsequently used for irrigation and in toilets located inside (Chernos, 2008).

Energy efficient design continues to be a hallmark of the board's new schools. There remains only one area of new residential development left in the city where the TDSB plans to build a new school: the Rougeville neighbourhood, which is also located in Scarborough-Rouge River. Ms. Penny, in a November 19, 2008 report to the board's Operations and Facilities Management Committee, outlined a proposal for a new elementary school that will accommodate 668 students in junior kindergarten to grade eight. At a total construction cost of \$15,844,571 the school will be "energy efficient and operate at \$60,000 to \$100,000 below conventional annual operating costs" (Penny, 2008). This exemplifies perhaps the biggest challenge of building LEED-certified green schools: the high upfront construction costs. Juxtaposed against yearly operational savings from energy efficiency, however, the long-term financial and environmental gains make the initial investment worthwhile.

### ***Community***

Despite the financial barriers of updating the board's aging infrastructure, an important step towards environmental sustainability has been achieved through local school communities committed to change. As such, community engagement through social action is an important part of the three Cs framework. It involves all

stakeholders, including students, parents, administrators, teachers and other school-based staff, working together to ensure policy and practices that support the environment. In general, individual schools at the TDSB develop a green culture at their own will. Allan and Peach (2009) argue that principals play an important role as “believers and role models for making environmentally responsible choices” (p. 15). Since a principal is essentially the leader of their school, she or he indeed has influence over the direction their school community takes.

At the TDSB, a lot of activities to develop a social environment of environmental sustainability fall under EcoSchools. The program “fosters leadership and teamwork, improves student achievement, and contributes to healthy and caring school communities” committed to the environment (Bibla and Dudar, 2009, p. 5). While it is optional, there are currently 311 certified EcoSchools at the bronze, silver, gold and platinum levels (Toronto District School Board, 2009) out of a total of 595 schools across the board. Therefore, over half of the board’s schools, or 52%, are certified EcoSchools, with increasing numbers each year. The director’s plan referenced the EcoSchools program, but did not make a commitment to ensure each and every school is a certified EcoSchool. What is needed from the director is a high-level commitment to ensure schools are empowered with the resources and supports needed to achieve EcoSchools standing.

To be certified, schools must complete an application with the guidance of an EcoSchools certification toolkit. Bibla and Dudar (2009) offer a number of questions to help schools determine how well they are building a community that respects the environment, including the following:

- Is your whole school mobilized to tackle the challenges inherent in creating a sustainable school? (p. 22)
- Does your school make decisions and follow daily routines and operational practices that significantly reduce its impact on the environment? (p. 24)
- Does your school make decisions and follow daily routines and operational practices that significantly reduce its impact on the environment? (p. 28)
- Does your school connect environmental stewardship actions inside and outside the school to students’ well-being, character education, and community-building? (p. 32)

Harbord Collegiate Institute, a certified EcoSchool, has been featured on the board’s website under EcoSchools best practices. Specifically, the downtown secondary school has significantly reduced the impact of its paper use. Students were surprised to learn that “\$1000 worth of paper made entirely from trees (no recycled content) requires about 12 mature trees with trunks 6-8 inches in diameter and 40 feet high” (Toronto District School Board, 2009, p. 1). As a result of this awareness, the leader of the Student EcoTeam at Harbord asked the principal to switch to recycled paper, “and he said okay” (Toronto District School Board, 2009, p. 2). Today, the school has reduced its paper consumption and only purchases 100% post-consumer paper, which is made completely from recycled materials.

There are many other examples of social action in EcoSchools across Toronto. For example, parents initiated the Wedgewood Butterfly Garden, where the school’s caretaker and students were later brought in to help maintain it. Elsewhere, students have taken on leadership roles and teamwork to participate in the international Earth Hour, when energy consumption is dramatically decreased by turning off lights and

electronic equipment such as computers. Ranging from the simple to the complex, the various projects under the EcoSchools program have instilled in school communities across the city a sense of respect for the environment. Perhaps most importantly, it demonstrates how even the smallest of actions can contribute to the collective impact made by the board's 311 certified EcoSchools.

The challenge to developing a culture of social action and change is to engage and involve members of the community. In neighbourhoods of lower socioeconomic status, engagement and involvement may not be as easily attained as a result of other commitments, such as family and work. As a result, the board must recognize that non-privileged communities may require additional supports to achieve community participation. Certainly a commitment in the director's plan to provide all TDSB school communities with the resources they need to achieve EcoSchools certification would be helpful.

### ***Curriculum***

Environmental curriculum plays an important role by instilling an awareness and knowledge of the environment in the minds of children and youth. It can also encourage social action (community), as well as promote an understanding of the technical solutions (construction). As such, curriculum plays a central role and is inherently linked to the other two categories of the three Cs framework. According to the provincial government's report, *Shaping our Schools, Shaping our Futures*:

"Environmental education seeks to promote an appreciation and understanding of, and concern for, the environment, and to foster informed, engaged, and responsible environmental citizenship. Effective environmental education incorporates problem solving, hands-on learning, action projects, scientific inquiry, higher order thinking, and cooperative learning" (Province of Ontario, 2007, p. 6).

In fact, it was this report, written by the Curriculum Council and the Working Group on Environmental Education, that prompted the Ministry of Education to announce on June 22, 2007 that it was "putting environmental education back into the curriculum" (Ministry of Education, 2007, p. 1). In the announcement, the provincial government committed to: incorporate environmentalism into each and every grade level and subject; develop a new secondary level course on environmentalism; collaborate with community organizations; and provide teacher training and resource guides. The official press release stated: "Today's announcement is another example of how the McGuinty government is working with education and community partners to inspire students to fight climate change and become environmentally responsible citizens" (Ministry of Education, 2007, p. 2).

This much-needed Ministry mandate came at a time when school leaders struggled with how to best infuse environmentalism into public education. Allan and Peach (2009) reported that teachers "may resist integrating environmental issues into the curriculum...as it may seem too daunting" (p. 15). In the absence of a provincial mandate for such education, the development of environmental curriculum occurred sporadically both within and between boards. The promise of a provincial mandate to implement the recommendations of the *Shaping our Schools, Shaping our Futures* report meant a dramatic shift from the Ministry's decade-long path, which began when the previous Conservative government removed environmental studies from the curriculum (Chen, 1998).

But even with the Ministry's new mandate, Allan and Peach (2009) argue there is still "a long way to go before the majority of Ontario schools make environmental issues a central focus" (p. 13). Colleen Russell, superintendent of education at the TDSB, says the Ministry has yet to provide the necessary curriculum resources needed for the TDSB to incorporate environmentalism into each and every grade level and subject (personal communication). For teachers, an important challenge in meeting the provincial mandate is the lack of learning resources and professional development. While a few hundred teachers from the TDSB attended sessions on ecoliteracy, energy conservation and environmental citizenship skills last year, there remains thousands more teachers who have not benefited from such professional learning. John Maiorano, a teacher who is also involved with Environmental Education Ontario, explains:

"The textbooks and course material have not changed, so it is basically up to the creativity of the teacher to teach these issues ... The teachers I ran into in teachers college mostly don't understand climate change issues, because as the vicious circle goes, they were never educated on it in elementary, high school or university" (personal communication).

What is clearly needed alongside the Ministry's mandate for environmental education is increased funding for curriculum resources and professional development. Despite this, at the very least the provincial government's new direction "acts as a catalyst of hope and positive perspective for the future of our students" (Allan and Peach, 2009, p. 16).

### ***Conclusion***

As observed by others, it may take a long time before most Ontario schools have infused environmentalism into all aspects of teaching and learning. What is certain, however, is the dramatic shift over the past couple of years that began with the Ministry's 2007 announcement calling for environmental curriculum in all schools. For the TDSB, the director's "Go Green" plan presented a strong vision for facilities-related improvements, mostly contingent on provincial funding, as well as a continuation of such community-driven initiatives as EcoSchools. The programs and initiatives at the TDSB point to an integrated framework of the three Cs—construction, community and curriculum—needed to support environmental sustainability and social justice at the board.

Stakeholders at all levels have recognized the importance of environmentalism in public education, and this is evidently a step in the right direction. Funding, however, has been a major hurdle in all of the solutions I have considered in the three Cs framework. Since the TDSB—as well as all other public school boards in Ontario—does not have a tax base from which to generate revenues, it must continue to look to the provincial government for increased funding to meet its ambitious green plan. The Ministry has provided a whole lot of talk thus far, and a lot less cash.



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# Society I

**14:45-16:15, December 16, 2012(Room 1)**

**Session Chair:** *Voon Chin Phua*

**612: The Enigma of Hong Kong's Mental Health Policy in the Colonial Era and under China's Sovereignty**

*Anita Chi Kwan Lee*

*Tung Wah College*

**46: Searching for a Place Called Home: The Expat and National Dilemma in the UAE (United Arab Emirates)**

*Susan Kay Smith*

*American University of Sharjah*

**133: Russia-China Intercultural Policy as the Strategy of Transbaikal Region and Dongbei Region Co-Development in the Sociocultural Space of the Borderland**

*Valentina Sergeevna Morozova*

*Transbaikal State University*

**142: Trend Report: Ethnic Cultural Tourism in Singapore**

*Voon Chin Phua*

*Gettysburg College*

**590: Promising Collision**

*Laura Blythe Liu*

*Beijing Normal University*

## The Enigma of Hong Kong's Mental Health Policy in the Colonial Era and under China's Sovereignty

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### ABSTRACT

People in Hong Kong bear the brunt of diverse types of mental disorder. According to the survey by the Hong Kong Mood Disorders Center, Faculty of Medicine, Chinese University of Hong Kong (CUHK) (2009), 200,000 people suffered from anxiety disorder and 600,000 people from depression. Another survey by the same CUHK unit also estimated that 570,000 people suffered from paranoia personality disorder. Despite the marked prevalence of emotional disorder, the waiting time for health and psychological services offered by the public sector is extremely long, i.e. 2–3 years. Meanwhile, the consultation time is rather short, typically only 5–7 minutes because of the shortage of professionals (Tsang, 2007).

Therefore, the mental health services in Hong Kong are criticized as seriously insufficient. Tsang (2007) even lamented about the lack of a consistent mental health policy. Notwithstanding its importance, the issue of the mental health policy has completely eluded the scrutiny of scholars and policy makers. The present paper offers the first stage of a full-scale research on Hong Kong's enigmatic mental health policy in the colonial era and under China's sovereignty respectively. This theoretical framework sheds light on the two-way interaction of the consultation, top-down or bottom-up, on mental health services between the Government and the citizens.

The top-down approach refers to the Government acting as an executive-led and non-democratic polity without collating opinions from different parties. While social construction has constantly evoked the stigma of deviance on mental disorders, the lukewarm attitude of the local Government seems to have dismissed the importance of the formulation of a mental health policy. Meanwhile, mental health patients are the disadvantaged group with very few people really concerned about their interest. The top-down approach, however, could hardly operate in isolation. It should be studied in conjunction with the bottom-up approach of "governance beyond government", which refers to fostering partnership by government officials across the public, private and community sectors. This should go hand in hand with the development of social institutions and networks in which citizens could discuss mental health issues, work together, and eventually help build up confidence and capacities of local governance in terms of the mental health policy. The current paper aims to study the theoretical framework in the colonial era and the post-colonial era respectively, shedding light on whether, and to what extent or with what mechanism, the mental health policy—if it does ever exist in Hong Kong—affects the demand and supply of mental health services in Hong Kong.

This theoretical framework represents the very first step of the research, to be followed in the next stage by in-depth interviews with the different stakeholders, including government officials, mental health patients and their families, psychiatrists,

clinical psychologists, counselors, social workers, mental health policy advocates and academics. The research will then be concluded by analyzing how the consultation process on mental health services in the colonial era and under China's sovereignty affects both the demand and supply, and whether there ever exists a solid mental health policy in Hong Kong.

Keywords:

mental health policy, Hong Kong, colonial era, post-colonial, supply of mental health services

## 1.INTRODUCTION

It is widely recognized that people in Hong Kong bear the brunt of diverse types of mental disorder such as major depressive disorder, anxiety disorder, personality disorder, to name a few. According to the survey by the Hong Kong Mood Disorders Center, Faculty of Medicine, Chinese University of Hong Kong (CUHK) (2009), 200,000 people suffered from anxiety disorder and 600,000 people suffered from depression. Another survey by the same CUHK unit also estimated that a staggering number of 570,000 people suffered from paranoia personality disorder. Due to the marked prevalence of mental disorder in Hong Kong, the public mental health policy warrants special attention. The current provision of public mental health care in Hong Kong can be clearly delineated in a four-stage approach ranging from prevention, treatment, prevention of relapse to the follow-up system.

For prevention, the Hospital Authority piloted a prevention programme "Early Assessment Service for Young Persons with Psychosis" (EASY) in 2001 targeting the teenagers aged 15-25 (Hospital Authority, 2010, p.28). This programme aims at disseminating information to the public about the early symptoms of mental disorder, assessment and intervention. Similarly, the Hospital Authority initiated, from 2002 onwards, another programme entitled "Elderly Suicide Prevention Program" (ESPP) (Hospital Authority, 2010, p.30), which aims to facilitate the early detection of mental disorder among the elderly and prompt treatment simultaneously via continuous education and promotion.

As the patients proceed to receiving treatment, those who suffer from common mental disorders or even severe mental disorders could visit specialist outpatient clinics provided by the Hospital Authority so as to get acute care and health maintenance services. In contrast, patients who suffer from more serious mental disorders such as schizophrenia could be admitted to the inpatient hospitals which encompass both acute care and rehabilitation services for an extended period.

A comprehensive intervention should not only encompass prevention and early intervention, and most importantly, the prevention of relapse to be run in tandem. To decrease the rate of relapse, the Hospital Authority now prescribes patients with the new anti-psychotic medicine with less debilitating side-effects.

Upon discharge from the psychiatric hospitals, mental disorder patients with a history of violence are required to register in the Priority Follow-Up (PFU) system, as stipulated by the Hospital Authority since 1983 (Expert Panel for Better Community Care of Psychiatric Patients in Hong Kong, 2010, p.4). The PFU cases are to receive top priority and PFU patients are required to pay mandatory visits to outpatient clinics. In addition, the PFU patients shall be visited by psychiatric nurses periodically. Notwithstanding its logical soundness, these patients could still reject the nurses' visit

because of the lack of a legal status of PFU. Apart from the PFU system, how to facilitate reintegration of the patients into society represents another pressing issue. In this regard, the Hospital Authority now operates cluster-based community psychiatric services to help the patients.

After the short overview of the current provision of mental health care, this paper proceeds to first establish the theoretical framework that sheds light on the two-way interaction on the consultation between the Hong Kong Government and the citizens as regards mental health services in terms of the both top-down and bottom-up approach. It is then followed by the application of the corresponding theoretical framework in the colonial era and under China's sovereignty respectively.

## 2.THEORETICAL FRAMEWORK

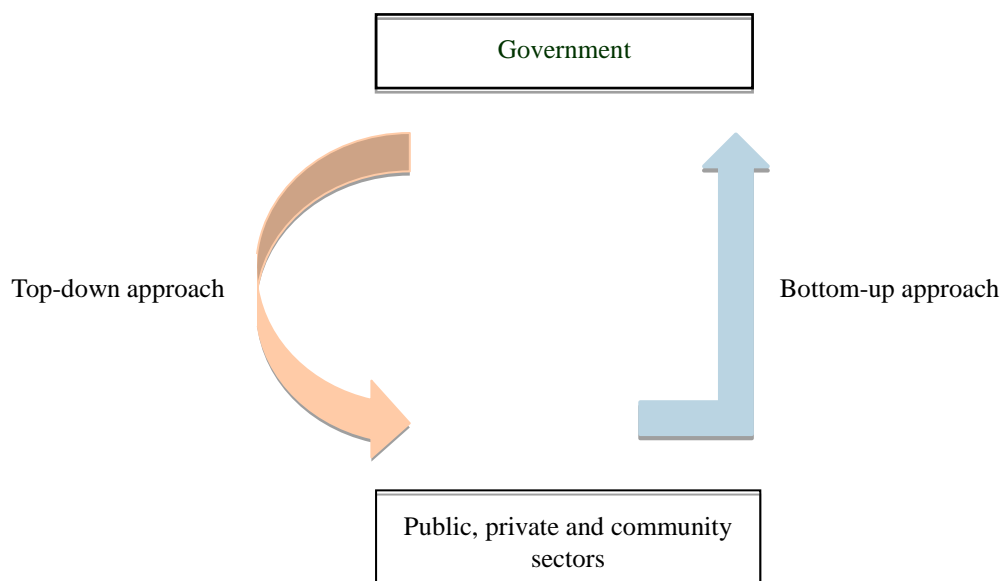


Fig. 1: Theoretical framework of two-way interaction on the consultation between the Hong Kong Government and the citizens

The theoretical framework of the two-way interaction on the consultation between the Hong Kong Government and the citizens is depicted in Figure 1. The top-down approach refers to the Government acting as an executive-led and non-democratic polity without collating the opinions from different parties. While social construction has constantly evoked the stigma of deviance on mental disorders, the lukewarm attitude of the local Government seems to have dismissed the importance of the formulation of a mental health policy. Meanwhile, mental health patients are the disadvantaged group with very few people really concerned about their interest. The top-down approach, however, could hardly operate in isolation. It should be studied in conjunction with the bottom-up approach of “governance beyond government”, which refers to fostering partnership by government officials across the public, private and community sectors. This should go hand in hand with the development of social institutions and networks in which citizens could discuss mental health issues, work together, and eventually help build up confidence and capacities of local governance in terms of the mental health policy.

### **3.DISCUSSION: MENTAL HEALTH MEASURES AND SERVICES IN PLACE OF A SUBSTANTIAL MENTAL HEALTH POLICY**

#### **3.1 In Colonial Hong Kong**

In a review of the mental health care provision in the 154 years of colonial Hong Kong, Kam-Shing Yip has found that the mental health care system before Hong Kong's return to China's sovereignty had developed from the pre-asylum period, the asylum period, the organization period, the initial and then centralized rehabilitation periods, into a parallel mode of institutional care and community care, instead of the de-institutionalization model that was the common movement elsewhere internationally (Yip, 1998, p. 46). This is the result, as Yip suggests, of the unique political and social context of Hong Kong. As it will be demonstrated in the current discussion, this unique political and social context also underlies the key to understanding the intricate forces and deliberation process behind policy formulation and political participation in the colonial era, which, in turn, would have borne a distinct and necessary impact on the process of policy formulation in post-colonial Hong Kong.

The extremely efficient and unbeaten administrative model of colonial Hong Kong has been a case study for quite a number of social and political researchers who have offered a range of factors contributing to its success. Notwithstanding, the hundred-year-long unchanging political structure before 1980s was "the result of the China factor", which prevented decolonization as occurred in other British colonies in the late 20th century, and brought to a freeze in the development of the political structure until 1985 (Ngo, 2000, p. 132–3). Research on the political representation in the colonial era has also highlighted the predominance and dependence on the business sector at all levels of political consultation (Davies, 1989, p. 36). On the one hand, the two decades immediately preceding the signing of the Sino–British Joint Declaration to return Hong Kong to China had witnessed an enormous growth of nearly three-fold of per capita GDP, alongside a 70 percent increase in the working population (1.55 million in 1965 to 2.64 million in 1986) and a 50 percent increase in the general population to 5.54 million in 1986 (Davies, 1989, p. 45). Ngo states that Hong Kong had achieved levels of modernity by the late 1970s in terms of the soaring development in a market economy, urbanization, literacy and higher education, and community well-being. At the same time, Hong Kong citizens enjoyed a high level of freedoms of expression, association, and assembly, bringing into existence a wide range of autonomous social, economic and political groups and organizations. On the other hand, there was no popular form of political representation, no political party and no elected assembly (Ngo, 2000, p. 133–4). Even in face of the subsequent changes introducing a drastic expansion of the representative system in the composition of the two tiers of the Legislative Council (LegCo), Urban and Regional Councils of the colonial government, as a result of a major government policy review in 1984, the wholly-appointed first-tier Executive Council was relatively immune to change, and had been persistently dominated by the business interest with a representation of around 40 percent through the same twenty-year period (Davies, 1989, p. 48–55).

In fact, the top-down approach in the governance of colonial Hong Kong had been supplemented by an elaborated advisory system of over four hundred advisory bodies in the 1980s, ranging from statutory bodies with executive powers to ad hoc committees (Ngo, 2000, p. 138). Ngo observes that this advisory system allowed office-bearers of major associations or interest groups to be appointed in their private

capacity, thus rendering possible a two-way co-responsibility process in this system of “government by consultation” whereby the views of the co-opted associations were reflected through their representatives in the policy formulation process, while support from these associations was offered, in return, to the policies adopted after deliberation. As such, this two-way process of both the top-down and bottom-up approach had presented an informal mechanism of what Ngo calls “government licensing” to social groups who were encouraged to seek official recognition as the legitimate representative and spokesperson of a social collective (Ngo, 2000, p. 139). Where labour and lower class groups had no access, at the other end of the power structure in the top policy council was an oligarchy representing the interests of big business and banking, the industrialists and the employers (Ngo, 2000, p. 142). By means of a limit on their privilege and relative power, consensus was forged among this oligarchy of business elites through a pact of alliance to pursue a laissez-faire policy and to uphold the principle of non-selective intervention, in order to allow for profit maximization (Ngo, 2000, p. 144–5).

In the late 1960s and the early 1970s, dissatisfaction with the system of oligarchic politics had prompted a series of riots and protest. With the advent of the year 1971, a new “reforming governor”, Sir Murray, and later Lord, MacLehose, was brought in, who instigated, among other initiatives, the establishment of the Independent Commission Against Corruption (ICAC) and a very ambitious public housing programme (Davies, 1989, p. 50). Changes in the policy councils first took place in the lowering of overall expatriate representation to less than 43.5 percent in 1975. Then, direct elections were introduced in 1982 for the first time ever in the colony to the new District Boards (Davies, 1989, p. 51). Davies argues that the addition of an influential group of educated middle-class professionals in the membership of the Legislative Council was in the process of starting to reflect a new reality in Hong Kong politics. As a result of a major increase in 1985 in the number of Unofficial Legislative Councillors, who were also appointed as chairmen or senior members of a range of advisory bodies, the broadening of representation continued with a concurrent decrease in that of official members (Davies, 1989, p. 53). Ngo claims that the opinions of the appointed members in the councils and other advisory committees were highly respected and the consultation exercise was a genuine one. Neither the Governor nor the colonial government had acted in opposition to the consensual views of the unofficial members. Contrary to the post-1997 state of affairs in the LegCo, the majority of the official members in the colonial LegCo maintained until the 1980s had not been used to overcome the unanimous opposition of the unofficial members since 1953 (Ngo, 2000, p. 140).

In the colonial era, government emphasis had always been placed on the creation of wealth rather than the distribution of wealth. With promoting capital accumulation as the prime objective, pro-business measures undertaken by the colonial government of Hong Kong included low profits tax, free enterprise, free flow of capital, minimal labour protection, and limited social welfare protection (Ngo, 2000, p. 144–5). This laissez-faire policy was the guiding principle of the government, exerting its influence even on the current post-colonial administration. Coupled with the tradition of maintaining the self-imposed financial discipline for solid fiscal reserves, recurrent expenditure on education, health-care and other social services were tightly controlled at a limited level. This could partially explain the constant lukewarm and dismissive attitude of the Government in even initiating a discussion about a substantial mental health policy, and the enduring minimal percentage of per capital GDP allocated in the expenditure for the provision of mental health care. Taking into account Hong Kong’s ageing population and widening

wealth gap, it is high time for the current SAR Government to conduct a review of whether Hong Kong should increase its recurrent public expenditure on certain areas such as health and welfare in a more targeted and sustainable manner.

### **3.2 Under China's Sovereignty**

The pressing need for the formulation of a substantive mental health policy has been re-positioned on the agenda only as a result of a series of grave incidents involving ex-mentally ill patients, and at the time period of nearly a decade after Hong Kong's Handover to China. The most recent piece of testimony of its urgency is the 2012 Submission by the Alliance on Advocating Mental Health Policy in its call for a substantive mental health policy to replace the piecemeal supply of measures and services as regards mental health care. Meanwhile, the Secretariat of the Legislative Council provided an Information Note in May 2010 that put in comparison the policy frameworks of Hong Kong, England, Australia and Singapore, identifying clear mental health policies for the 3 other selected places, but the policy framework for Hong Kong as only including the white paper on rehabilitation services in 1995, the Rehabilitation Programme Plan in 2007, and relevant legislation provided by the Mental Health Ordinance (Cap.136), Disability Discrimination Ordinance (Cap. 487), and the Enduring Powers of Attorney Ordinance (Cap.501) (LegCo Secretariat, p. 3–6). Reference to and description of the mental health policy has been at a minimal as found in a few other LC papers for discussion; only two paragraphs in the 22 November 2007 paper of 12 pages are set apart for the current mental health policy, and no details are offered in the six-paged 19 May 2008 paper on “Mental Health Policy and Services”.

The intriguing question of which department in the HKSAR Government shall hold responsible for designing mental health policies after 1997 has continued to perplex researchers. The Government, however, argues that the Taskforce on Mental Health Service has already been set up in 2006 by the Food & Health Bureau (Alliance on Advocating Mental Health Policy, 2012, p.1). Be that as it may, the Taskforce remains elusive about specific mental health policies on the agenda, and whether the discussion by this Taskforce should be made transparent to the public (Alliance on Advocating Mental Health Policy, 2012, p.1). Although there was another similar task force jointly organized by the Social Welfare Department, the Hospital Authority and non-governmental organizations, its role was only limited to reviewing the cooperation among different government departments in light of the provision of mental health services; evaluation of existing mental health services and, hence, any feasible mental health policy were not put forward (Alliance on Advocating Mental Health Policy, 2012, p.1).

Uncertainty about the mental health policy in Hong Kong was seemingly attenuated by the occurrence of a tragedy in May 2010, whereby a mentally-ill patient physically injured three people and killed two neighbours in Kwai Shing East Estate. As this tragedy sparked public outcry, the Hong Kong SAR Government undertook to set up the Task Force on Community Mental Health with membership for the different government departments ranging from the Hospital Authority, the Social Welfare Department, the Housing Authority, to the Hong Kong Police Force (Alliance on Advocating Mental Health Policy, 2012, p.1). This is the very first concerted effort made to discuss related mental health strategies and their implementation. This Task Force, however, failed to address mental health issues in a timely manner as meetings were convened only twice a year (Alliance on Advocating Mental Health Policy, 2012, p.1).



Since the tragedy in Kwai Shing East Estate had generated substantial public outcry, the Chief Executive echoed in the 2010-2011 Policy Address the importance of setting up mental health integrated community centers. It was proposed that 24 mental health integrated community centers were to be established in 18 districts, so as to better accommodate the needs of different groups including the discharged mental patients, persons with suspected mental health problems, their families and residents living in the relative districts. This proposal, however, was rendered futile as it has failed to execute coordination by any one relevant department (Alliance on Advocating Mental Health Policy, 2012, p.1). No department was assigned to explore suitable venues or to consult the citizens within the communities. This predicament is further exacerbated by a lack of funding for mental health services and a shortage of expert medical professionals in the field. Currently, Hong Kong spends only 5% of its GDP (gross domestic product) on the health sector—an expenditure that lags far behind the average of 8.8% among the Organization for Economic Cooperation and Development countries (Expert Panel for Better Community Care of Psychiatric Patients in Hong Kong, 2010, p.4). Pitfalls are still identified in the mental health sector in Hong Kong as there is no separate fund dedicated to mental health; only a negligible 0.24% of GDP is spent on mental health care (Expert Panel for Better Community Care of Psychiatric Patients in Hong Kong, 2010, p.4). Due to the shortfall in the mental health funding in Hong Kong, inadequate staffing of professionals is commonly observed with a special reference to a skyrocketing professional to patient ratio (psychiatrists, 1:2,100; psychiatric nurses, 1:330; medical social workers, 1:3,100) (Expert Panel for Better Community Care of Psychiatric Patients in Hong Kong, 2010, p.5). As a result of the intertwining forces of the lack of central coordination, and the shortage of both sufficient funding and medical personnel, only nine mental health integrated community centers have been set up, while the remaining fifteen mental health integrated community centers are still in the search for suitable locations. Even though some of the mental health integrated community centers have been successfully launched in districts such as Tin Shui Wai, a close connection and cooperation is absent between the social workers of community centers and the case manager of Hospital Authority (Alliance on Advocating Mental Health Policy, 2012, p.1).

Apart from the 2010-2011 Policy Address, an escalating effort is put forward by the Hospital Authority as to finalize the roadmap of mental health services within the next five years in the Mental Health Service Plan 2010-2015, which was drafted on the basis of 40 submissions from individuals and organizations within a 3-month consultation period (Hospital Authority, 2010, p.74). The consultation received 12 responses from the non-governmental organizations of mental health services and 2 responses from the patient groups. The remaining responses were collected from the Hospital Authority, other government departments and professional bodies. Although this draft seems to be a result of public participation, there is a constant criticism that the mental health policies of Hong Kong are completely inaccessible to the victimized group of patients with mental illness (Chan & Chiu, 2007, p.213). This problem could be further understood in light of the structure of the institutional channels for the mental health service users or community groups to participate in the formulation of mental health policies (Chan & Chiu, 2007, p.213). It is further aggravated by the lack of the sense of citizenship among patients with mental illness. In a survey by telephone interviews of 507 citizens and 520 mental health service users, Chan & Chiu discovered that the mental health service users enjoyed relatively high political efficacy and high involvement in protest activities (Chan and Chiu, 2007, p.210). However, high political efficacy could negatively impact citizenship formation in the mental health service users, who would subsequently present a low

participation rate in voting, with minimal involvement in the political system and in their engagement in an exchange with political parties, civic groups and elected officials (Chan & Chiu, 2007, p.209 & p.211). As a result of the plight of longstanding stigmatization and social exclusion, these mental health service users view political participation as an unpleasant experience (Chan & Chiu, 2007, p.211). In this regard, the lack of a two-way interaction has been exposed between the Government and the public, especially for this minority group. On the one hand, institutional channels to propose a mental health policy are unavailable for access of the public. On the other hand, because the mental health service users lack the initiative to participate in the whole spectrum of political activities, it is of top priority on the agenda to empower this minority group.

To put it briefly, mental health policies in the post-1997 Hong Kong exist as a vacuum. Without neither a detailed plan nor central coordination, the Government always undertakes only to implement mental health measures and to provide mental health services. More importantly, the Government has always dismissed the formulation of a substantial mental health policy. Resorting to a *post hoc* solution instead of *ad hoc* preventive measures, the Government is observed as starting to put forth more effort in proposing a mental health policy only in the aftermath of tragedies involving mentally-ill patients, the occurrence of which in the recent years has increasingly sparked public outcry. Sadly, the difficulty in practising the bottom-up approach in political consultation has seldom brought the victimized groups to the forefront in the formulation of mental health policies. The top-down approach in the governance of Hong Kong predominates as a result of both the inaccessibility of the mental health policy to the users and the lack of the initiative in these users to participate in political consultation. While policy deliberation exercises in general were genuine in the colonial era despite government inertia in the formulation of a mental health policy, it remains questionable whether “governance beyond government” has ever existed in the post-1997 era.

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## Searching for a Place Called Home: The Expat and National Dilemma in the UAE (United Arab Emirates)

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### ABSTRACT

The United Arab Emirates is a federation of seven emirates with an estimated population over 8 million of which approximately 80-90% are non-citizen immigrants (2009).<sup>4</sup> It is a diverse cultural environment, which can be described as a Petri dish designed to test globalization and cultural mobility.

Residence and migration to the UAE is considered temporary because there is no pathway toward becoming a naturalized citizen. For the UAE migrant, resident visas are offered for employment only and individuals often come to the UAE to work, raise a family and return to their homelands for retirement. Furthermore, the (indigenous) national population, a minority, has begun to hold fiercely to their cultural identity, fearing loss of culture and traditions as the expatriate population rapidly grows.

This sets up a rather unique situation for children of expatriates living in the UAE. An expat child, whether born elsewhere or in the UAE, is considered a citizen of their parent's (s') passport country (most often their birth country). Although globalization is not a new by-product of migration, it has certainly produced a new kind of immigration and migration where populations can have dual citizenships and may or may not choose to assimilate into the second or third culture. Although migration issues are universal, expat residence in the UAE has its own circumstances.

Many UAE expats belong to, what has been described by Dr. Ruth Hill Useem, an undefined "third culture." That "third culture" is neither the person's birth country nor their passport country (Polluck and Van Reken 2007, 1).<sup>5</sup> UAE Expats do not express a strong tie to a national identity, ethnicity or race. University students often express a "negotiated" state of being often dealing identities like playing cards. They carefully scrutinize what is at stake, consider the outcomes and play the identity that best suits the situation. A major challenge for TCK (Third Culture Kid) is "cultural marginality" where people don't fit perfectly into any one of the cultures to which they have been exposed or with which they have interacted, but may fit comfortably on the edge, in the margins, of each (2007, 2).<sup>6</sup>

However, UAE TCK also differ from other TCK due to their parents'(s) extended residency in the UAE (in some cases 20 years or more) and their expected repatriation back to their passport countries. This repatriation also distinguishes UAE TCK from immigrant kids worldwide for UAE expatriates are migrants who cannot gain citizenship. Males and females are expected to leave the UAE if unemployed at the age of 18 or if not in the university and if their parents do not hold a residency visa. Upon graduation from university there is a short grace period to enable the student to find employment and the average time taken to secure a job can be over six months.

Questions begin to arise: Where do TCK expats call home? How do they show

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<sup>4</sup> National Bureau of Statistic UAE. April, 2010.

<sup>5</sup> Polluck, David C. and Van Reken, Ruth E. 2007. *Third Culture Kids: The Experience of Growing up among Worlds*, Boston, MA, USA: Nicholas Brealey.

<sup>6</sup> Ibid.

their cultural identity? What happens when they repatriate to a strange land country they no longer call home? How does the growing expatriate population affect the national citizens? Should UAE expats be given access to citizenship? What do the nationals think about expats gaining citizenship? Through data compiled through video recordings, on-line surveys, and film and documentary studies compiled over a 3-year period, this article investigates the UAE expatriate experience and the national response to the rapidly changing country (Smith, 2011).<sup>7</sup>

## 1. RESEARCH

The United Arab Emirates is a pluralistic society that is home to an estimated population over 8 million, of which approximately 80-90% are non-citizen migrants and 75% male. According to immigration statistics, the UAE has the 14<sup>th</sup> highest migrant population in the world.<sup>8</sup> For the UAE migrant, resident visas are offered for employment only and individuals often come to the UAE to work, raise a family and return to their homelands for retirement. Although immigration issues are universal, residence in the UAE has its own circumstances when it comes to migrants, nationality and citizenship.

Making the UAE home is complicated by the current migration regulations. Residence in the UAE is considered temporary for there is no immigration options for non-citizens, even while other Gulf States such as Saudi Arabia, Qatar and Bahrain grant citizenship to some expatriates.<sup>9</sup> While emigration/migration rules and regulations vary per nationality, unemployed females can remain in the UAE indefinitely under the parents' family visas until their marriage, but eventually, they too will leave the UAE. Most UAE expat male youths over 18, not employed or enrolled in the University, must repatriate after a grace period has expired.<sup>10</sup> This sets up a rather unique situation for children of expatriates living in the UAE. An expat child, whether born elsewhere or in the UAE, is considered a citizen of their parent's (s') passport country (most often their birth country).

When considering cultural and national identity some scientists, such as Samuel Huntington proposed that culture and identity are fixed and informed by nationality, religion and ethnicity.<sup>11</sup> Others accept another view, and Smith's preliminary data seems to support this alternative thesis—culture and identity is understood as being fluid and socially constructed—individuals have “any number of identities.”<sup>12</sup> “Some of these identities intersect or collide with others, and all vary in salience across time and across contexts.”<sup>13</sup> And, more importantly, this view holds identity to be malleable, shifting across time and place for individuals and for societies.<sup>14</sup>

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<sup>7</sup> Smith, Susan. 2011. “Third Culture Kids in the UAE: Using documentary filmmaking as a Catalyst for Creativity and Learning” chapter in *Lights! Camera! Action and the Brain! The Use of Film in Education*, Cambridge Scholars Publishing. Ed: Maher Bahloul and Carolyn Graham.

<sup>8</sup> <http://www.nationmaster.com>

<sup>9</sup> There are some exceptions to this rule, mostly for those Bedouins that can show bloodlines that go back over an extended period of time. A foreign national who marries an Emirates citizen can obtain citizenship, but only after ten years of marriage. Another way in which a person can claim citizenship of UAE is if they were born outside the state to a UAE father. The nationality of the mother has only just begun to be taken into consideration, with the UAE just recently granting citizenship to children of UAE women who had married foreign nationals.

<sup>10</sup> There are some variations to the visa rule, depending on parental ownership of property or country origins.

<sup>11</sup> Croucher, Sheila L. (2004) *Globalization and Belonging, The Politics of Identity in a Changing World*, Lanham Maryland: Rowman & Littlefield Publishers, Inc., 36-37.

<sup>12</sup> Smith, Susan. 2011.

<sup>13</sup> Croucher, Sheila L., 38.

<sup>14</sup> Ibid.

This notion of identity as shifting according to time and place is what author David C. Pollock refers to, in part, when he defines the characteristics of TCK or “Third Culture Kids:”

A Third Culture Kid (TCK) is a person who has spent a significant part of his or her developmental years outside the parents' culture(s). The TCK frequently builds relationships to all of these cultures, while not having full ownership in any. Although elements from each culture may be assimilated into the TCK's life experiences, the sense of belonging is in relationship to others of similar background.”<sup>15</sup>



Figure – 1 Illustrates the UAE TCK (Third Culture Kids)<sup>16</sup>

Smith's research concerning cultural and national identities of youths specifically students at the University of Sharjah, began as documentary projects (2009). Students were asked to create documentaries concerning cultural identity—a relatively broad topic. Documentaries could explore how people show their cultural identity or other variations of cultural identity. Another project consisted of student interviews in a video recording booth. This booth, similar to a video kiosk, was constructed out of glass, so that others could view participants while in the booth. Inside was a TV screen and recording camera. Students were asked to enter the booth and answer printed questions. As the projects began to develop, it became clear that many of the AUS students had difficulty identifying one culture or, in particular one country they called “home.” When queried—where you do call home—some students quite literally stumbled and seemed confused. Many, if not most AUS students had some difficulty identifying a “home” country.

The following sound bites recorded by two AUS university students in the video recording booth illustrate typical TCK characteristics:

I am from Kuwait and I have been here (UAE) for nine years. I have three countries I call home, Germany is the first place I recognize, or I call home, because I lived there for 6 years, and then Kuwait and then the UAE, I do call home because I have been here a very long time and I grew a lot here (female).<sup>17</sup>

I am originally from Palestine, but I was born in the United States, so I like to consider myself both (nationalities), both Palestinian and American. I have been in the UAE about 8 years. Although I have never lived in

<sup>15</sup> David C. Polluck, and Ruth E. Van Reken. (2007) *Third Culture Kids: The Experience of Growing up among Worlds*, Boston: Nicholas Brealey, 1.

<sup>16</sup> Adapted from Bethel, Ruth E. Van Reken and Paulette M. “Third Culture Kids: Prototypes for Understanding Other Cross-Cultural Kids,” last modified July 29, 2007, <http://tck.szapkiw.com/course1/documents/crossculturalkids.pdf>.

<sup>17</sup> (2011) Transcription is taken from the video booth recording booth of an AUS female student. December.

Palestine, I would like to refer to Palestine as my home, rather than the United States, because that is where I feel like I am originally from and that is where my grandparents live so, I always refer to Palestine as my real home (male).<sup>18</sup>

Smith's book chapter entitled "Third Culture Kids in the UAE: Using Documentary Filmmaking as a Catalyst for Creativity and Learning"<sup>19</sup> describes the process of using filmmaking pedagogy in the classroom to teach students about cultural identity. Student documentary making can be used as a critical approach for investigation, exploration and creative learning. While the chapter describes the transformative powers of documentary making, it also focuses on the documentary *My Name is Pat* produced by AUS students. *My Name is Pat* focused on Pat's "marginal cultural identity"—expressed by Pat as a sense of "homelessness." This was partially due to a lack of connection to her Filipina homeland.

However, her parents were reluctant to let her return to the Philippines. Even if she were to return, she might, as many other youths, feel like a foreigner in her own birth country.

"The making of this documentary made me realize how diverse I really am as an individual, not just because I'm a Filipino living abroad but because within this place I called home were other different places that called or rejected my presence as an individual. The documentary sparked how much a side of me didn't want to stay abroad and was longing to go back to the Philippines because I wasn't sure if I was Filipino. At the same time, looking at the [video] shots in college showed how comfortable I am with my friends who were not from my country, not even close."<sup>20</sup>

Finding what is lost or missing is part of Pat's quest for self-identity.<sup>21</sup>

Pat is not alone in her search for a place to call home for many migrants struggle to make the UAE their new "home." A major challenge for the TCK is the "cultural marginality," expressed by Pat. People don't fit perfectly into any one of the cultures to which they have been exposed or with which they have interacted, but may fit comfortably on the edge, in the margins, of each (2007, 2).<sup>22</sup> Surprisingly students face another kind of cultural marginality as they repatriate to their "home" countries.

During a recent discussion with a CEO of Dubai Zoom Developers about migration and youths, the Indian native expressed how he thought that Dubai Indian youths had no confusion as to cultural identity. He thought this was, in part, due to the large number of Indians migrants living in Dubai (51%) and the proximity of the Indian homeland. This mass migration was stimulated in the 1950's by a hundred or more resourceful Indian merchants who came to Dubai to develop businesses. Some of these merchants were granted brand specific trade licenses by the government, such as electronic brands and Sony products later known as Jumbo electronics. By the 1970's a large number of Indian merchants were prospering and attracting others to

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<sup>18</sup> Ibid.

<sup>19</sup> Smith, S. (2011) *Lights! Camera! Action and the Brain! The Use of Film in Education*.

<sup>20</sup> Ibid., 1.

<sup>21</sup> *My Name is Pat* can be viewed at the on-line Women's Voice Now Film Festival

[http://womensvoicesnow.org/watchfilm/my\\_name\\_is\\_pat/P10/](http://womensvoicesnow.org/watchfilm/my_name_is_pat/P10/).

<sup>22</sup> Ibid.

come to Dubai to create Indian communities.<sup>23</sup> Nevertheless, whether Dubai is truly an India away from India, many of my students who hold Indian passports, have never lived in their home country of India, and will eventually repatriate to their passport country. When they return, it is speculated that they will experience some cultural marginality, as they will not completely fit into the Indian culture, which differs greatly from the Dubai “India” that they have grown accustomed to.

UAE TCK differ from other TCK due to their parents’ extended residency in the UAE (in some cases 20 years or more) and the expected repatriation to their passport countries. Males aged 18 and over are expected to leave the UAE if unemployed and repatriate to their passport countries. One Pakistani student explained his concerns:

I am Pakistani and I have only one month to find a job after I graduate in January but I have never lived in Pakistan. My visa runs out and I am very worried. I have a friend who was in the same situation as I am and he had to return to Pakistan before he could a job. He flies back every other month doing job interviews. I am very worried that this is going to happen to me.<sup>24</sup>

Yusur Al Bahrani, videographer for *My Name is Pat*, describes her marginality in a self-reflective journal entry:

After more than 12 years of being outside Iraq, my parents decided to visit their country at 2003. There is no dictator, so no one to fear. Every time I go to Baghdad, I suffer. I don't belong to my country. I feel very different from everyone else there. I don't belong to any country as well. After that, I reached to [a] fact that I will decide and I will create my cultural identity and no one can even enforce any identity upon me.<sup>25</sup>

## 2. UAE NATIONAL IDENTITY UNDER THREAT

Expatriates in the UAE are not the only group that struggle with self-identity. A common discussion heard among nationals is their concern about the “influx of expatriates who come with diverse cultural and religious backgrounds” causing nationals to be a minority in their homeland.<sup>26</sup> Mr. Najib Al-Shamsi, the Director of Studies and Research unit at the GCC General Secretariat explained during an interview, “This flow of the expatriate workforce has led to an imbalance in the demographic structure and has had a major impact on our cultural identity. Our values, customs, traditions, language and national personality are all in danger.”

According to the UAE National Bureau during the 5-year period from 2005 to 2010, the expatriate population has more than doubled reducing the proportion of indigenous nationals from 18% to as little as between 11 to 4%.<sup>27</sup> According to author Christopher Davidson, an increasing number of nationals have begun to voice

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<sup>23</sup> Davidson, C. (2008) *Dubai: The Vulnerability of Success*, Columbia University Press, 89.

<sup>24</sup> Transcription is taken from a personal interview of an AUS Pakistani senior accounting student, January 2012.

<sup>25</sup> (2010). Transcription taken from the film journal entry with permission.

<sup>26</sup> (Feb. 9, 2009) The Emirates Center for Strategic Studies and Research: Featured Topics- Challenges to national Identity in the UAE.

[http://www.ecssr.ac.ae/ECSSR/print/ft.jsp?lang=en&ftId=/FeatureTopic/Najeeb\\_Abdullah\\_Al\\_Shamsi/FeatureTopic\\_1121.xml](http://www.ecssr.ac.ae/ECSSR/print/ft.jsp?lang=en&ftId=/FeatureTopic/Najeeb_Abdullah_Al_Shamsi/FeatureTopic_1121.xml)

<sup>27</sup> The population is estimated based upon the 2005 census. [http://www.uaestatistics.gov.ae/ReportPDF/PopulationEstimates\\_2006-2010.pdf](http://www.uaestatistics.gov.ae/ReportPDF/PopulationEstimates_2006-2010.pdf)



their discontent “believing that the ruling family and the government have gone too far in their efforts to accommodate” the expatriate population.<sup>28</sup> Davidson explains, “Nationals have begun to publicize their fears and a Dubai member of the Federal national Committee complained that when he “visits the malls they rarely hear Arabic, fears public wine-tasting parties, grimaces at women jogging in the streets, sometimes with their dogs that are considered unclean under Islamic law...”” The former FNC concluded that he and his family were in “internal exile” and in an effort to maintain their Arab and Muslim identities had to move away from Dubai. Davidson adds that this is not an isolated case with there being many examples of national families moving out of Dubai.<sup>29</sup>

Other issues seem to be changing national identity with nationals marrying non-national Arabs and non-Arabs. Interestingly, national women are discouraged from marrying non-nationals, still it is believed, as Davidson writes, there are over 14,000 mixed couples in the UAE. It should be noted, that previously, the government did not recognize the legitimacy of mixed marriages if the UAE woman married an expat, and in the past the government had refused benefits to the families and citizenship for the dependents. Women marrying non-nationals often lose their citizenship. However, in 2012, the government granted citizenship and passports to children of UAE national women who had married foreign nationals.<sup>30</sup>

Furthermore, there is a general complaint that that the large migration population contributes to lessening usage of the Arabic language, with English only being used in many Western classrooms, on street signs, menus in malls and restaurants, and most importantly in the workplace; indicators that English is quickly becoming the lingua franca of the UAE.

In addition, Emirati youth have embraced information technology, design and other skill based ways of learning that employ English terminology, thus down playing their need to learn and utilize Arabic.<sup>31</sup> Hashem and Smith’s recent work among Emirati youths and New Information Technology (NIT) found that Emirati youth often use NIT instead of spending quality family time and this is often viewed by themselves as well as the family as an addiction to technology that interferes with Arabic traditions. Furthermore, since this generation of Emirati parents is less familiar with NIT new technology is seen as divisive to inter-generational relationships. In addition, NIT is often used by female youths to communicate with and/or socialize with members of the opposite sex, which is highly frowned upon by conservative Emirati families.<sup>32</sup>

Cited as another threat to national cultural identity is the use by some Emirati parents of non-nationals to care for their children. This day care situation is viewed as contributing to the lack of acculturation of the children to Arabic culture.<sup>33</sup> However, this may in reality be an indicator of the growth of employment among Emirati and a fear about the changing role of women in Emirati society, since

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<sup>28</sup> Davidson, C. (2008), 194.

<sup>29</sup> Ibid.

<sup>30</sup> More families receive UAE Citizenship (May 30, 2012).

<http://gulfnews.com/news/gulf/uae/government/more-families-receive-uae-citizenship-1.1029341>.

<sup>31</sup> Al-Ali, Jasim (2008). Structural Barriers to Emiratisation: Analysis and Policy Recommendations PhD thesis. [vuir.vu.edu.au/15483/1/al\\_ali.pdf](http://vuir.vu.edu.au/15483/1/al_ali.pdf), 21.

<sup>32</sup> Hashem, M.E & Smith, S. (2011) “Emirati Youth’s level of addiction to new information technology: Opportunities, challenges/dangers, and possible solutions for a better future.” *GMJ-AE; 1* (2), pp.28-48; AUS, Sharjah: UAE.

<sup>33</sup> Hurreiz, S. H. (2002). *Folklore and folk life in the United Arab Emirates*. Bodmin, Cornwall: MPG Books Ltd,

traditional Arab culture has frowned upon working mothers.

A greater threat that is often overlooked and should be considered is the growing presence of Western materialism and western consumption patterns that most likely pose the most threatening factor for the local culture and identity of the nationals.<sup>34</sup>

In summary, this generation of Emirati youth is the first to find itself immersed in a global society that confronts all aspects of their culture. While benefiting financially and experiencing an increasing affluent lifestyle, traditionalist Emirati are becoming more and more marginalized, finding their culture and traditions threatened.

### **3. PURPOSE**

The purpose of the study is to examine how AUS nationals as well as expatriate students identify themselves in terms of cultural and national identity? Do they exhibit TCK characteristics? Furthermore, since citizenship is not earned or gained in the UAE by expatriates, do expatriates believe that they should be allowed become citizenships. Considering citizenship, do nationals believe that expatriates should either gain or earn citizenship? Do AUS national students express concern or indicate a loss of cultural identity or traditions?

### **4. METHODOLOGY AND MEASURES**

This project consisted of three different types of studies using three different types of methodology. Firstly, the first project was the creation of a mocumentary film by AUS students under the direction of Professor Susan Smith. This film genre employs documentary conventions such as mock interviews and scripted situations, which are often used as satirical devices.

For this study, students were paid to write a script and to produce a feature length film that expressed issue of loss of cultural identity and expatriation experienced by AUS students. The synopsis describes a road trip where students who recently graduate from university, find that their visas were soon to expire. In an attempt to extend their stay in the UAE, they drive to the Oman border to renew their visas. Along the way, they realize that the trip is in fact only a limited solution, and eventually surrender to the fact they will have to leave the UAE and say goodbye. Measurements involves an analysis of the written script and observations recorded by the primary researcher which describes the production activities of the students involved in making the film.

The second study involved the construction of a glass walled video recording booth that allowed small groups and/or individual students to enter and answer questions about their cultural identity. Included in the booth was an LCD screen so that they could view themselves as they recorded their answers. This methodology could be considered as a quantitative method of research in that the booth stimulated responses to questions that could not be measured by a qualitative scale. The objective of the booth was to stimulate students to both express and examine their sense of “home” in a novel environment. Upon entering the booth students answered printed questions that queried them about their TCK status. The booth

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<sup>34</sup> Kapiszewski, A. (2006) Arab Versus Asian Migrant workers in the GCC Countries, United Nations Expert Group Meeting on International Migration and Develop in the Arab Region for the Department of Economic and Social Affair, United Nations Secretariat, Beirut.

operated over a four-week period. Footage from the video booth was collected daily and video clips were compiled from over 120 different students into over sixty-six pages of transcriptions.

The third study involved a quantitative on-line questionnaire survey sent to AUS students, resulting in over 280 responses, 179 female, 101 male. The survey (utilizing surveymonkey.com) included college aged students 16-graduate school, all nationalities, including nationals attending AUS. The survey consisted of twenty-four questions with multiply choice and yes/no questions using a 5-point Likert scale.<sup>35</sup> Some of the questions duplicated some of the video recording booth questions, while other questions asked for more specific information. For example: One video recording booth yes/no question asked students if they thought UAE expats should have the opportunity to earn citizenship. The on-line survey question asked respondents that replied yes to the question, to describe “possible” criteria for expat citizenship. Question 24: When thinking about expatriates gaining citizenship, they should be required to do which of the following: Expatriates should not be able to earn and/or gain citizenship; Speak Arabic, Know UAE history; Live in the country for over 10 years; Live in the country for over 20 years; Pay a special fee; Be of Arabic origins; Other (please specify).

**Research Team:** Made of a diversity of the AUS student population including 3 national students. The research team helped with the development of the questionnaire, operate the video recording booth and obtain student permission of participants. Students also helped with the transcription of the video recording booth clips.

### **Demographics of the AUS student body:**

Film:

Spend a significant amount of time in the host country or some other country beside their passport country?

Indian: 3 born in the UAE, never lived in Indian

Loss of cultural identity

The longer their residence in the UAE, the less they connect to a “home” land and the less they want to return.

One female forced to leave production because...

How do they show their cultural identity?

Loss of cultural identity in language

Where do TCK expats call home?

What happens when they repatriate to a strange land country they no longer call home?

Sense of belonging to others of same background or interests:

All tied to sense of belonging through their connections to AUS not through nationality or race.

Do nationals express a sense of loss as to cultural identity?

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<sup>35</sup> [https://www.surveymonkey.com/s/UAE\\_TCK](https://www.surveymonkey.com/s/UAE_TCK)

The script-writer an Indian student raised in Dubai all his life does not know his native language and one of the characters in the film, Adam, also does not use Hindi, furthermore the actor playing Adam is also Indian and does not speak Hindi as well, having been born and raised in Dubai.<sup>36</sup> The female AUS student playing an Iraqi girl who has to leave the UAE after graduating, does in fact in real life have to stay employed for fear of being forced to leave and return to Iraq. The female costume designer, a former AUS student, has to make monthly runs to Oman to extend her visa. This is so common that the Omani border has created a new visa \*\*\*\*\* Costume make-up and costume and sound were desperately trying to find jobs. One of them which had an American passport (Arab) father was making what we call the “Oman” or Visa” run to the border where she paid the equivalent of 12 US dollars to have her visa renewed every 30 days.

The sound person for the film, cannot find a job in the UAE and she may be returning to the UAE, as well as the British student playing a documentary film maker. His situation is even more unusual, since he is in the UAE on his parent’s visa that is a professor employed at the UAE. However, if this young man turns 23 without employment, regardless of his parent’s employment at AUS, he will have to leave the UAE. The assistant director’s situation was even more dire.

- Assistant director and editor was pulled from the project and did not get to finish it. “parents said that her friends were influencing her too much”.
- National in the script was accused of being privileged, but did not want to live in the UAE himself and was leaving for Canada. Expressed disgust at the Bedoin.
- One national student’s parents would not let her take part in the film

**Transcripts for the video recording booth** total over 100 individuals with over sixty-six pages. Overall, the transcribed discussions in the video booth provide some of the most thought provoking discussion overall. The word cloud above is composed of 50 of the most commonly used words in the transcripts. Transcriptions are attached in the appendix.

## MAJOR FINDINGS:

### Demographics

### TCK Characteristics:

National students also seem to have difficulty in defining a cultural traditions that identity with an Emirati culture.

Some selected comments follow:

### Should expats be able to earn and/or gain UAE citizenship?<sup>37</sup>

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<sup>36</sup> The script writer uses the word *Chappu* to describe an Indian geek: The kinda guy wears his pants up to his chest. Has flat hair with a middle parting, but in fact the correct word would be *Champu* which is derived from

<sup>37</sup> Some youths in other parts of the world, the struggle to “find” home can be challenging. Recently the US considered federal legislation entitled the American Dream Act. This proposed law is of particular interest for

### **Serbian student living in the UAE over 8 years:**

“But I feel like, if you live here for very long time like thirty or twenty years, I mean this is your country. This is the country that you identify yourself with. You have given, invested in thirty years of your life in this place. So they should really consider giving Citizenships. May be they can give them a new form of Citizenship that isn’t Emiratis, but it is Citizens, they get some benefits from living here, like may be a retirement plan. Because as I said there a lot of people they kill their lives to work in this country, so I think they should get something in return from the country itself.”

### **Indian student living in the UAE over 20 years:**

Definitely. If you stay in States, if you stay in Canada, they do give you citizenship; they give you Green Card or passport, which is really important because that is our sense of belonging. Why do we have to always feel like we are expats, we are always lower than others. It gives a sense of insecurity that even after living here for so many years, we still may be kicked out someday, that we have to keep renewing our visa. And even though we are residents over here, and I was born here, I have lived all my life here; I still don’t feel like I can call myself Emirati. Of course I wouldn’t because I am Indian by culture and by my custom and traditions, but it would be nice feeling because you get rid of all these insecurities and that is really important.

### **Do Emirati students on AUS campus share some of the concerns voiced about expatriates gaining citizenship in the UAE? Some responses:**

#### **Stranger if I went back home:**

Sudanese:

Actually, I always feel like a stranger when I go back home. And that is why I keep saying UAE is my home. *[Girl Reply: But you have not really lived there much]*. No, but for example if I go for two weeks and stuff, I always miss UAE. [4:46-4:48](#)

*[Replying to the Boy’s answer: But you have not really lived there much]*. Even me, when I go back to Serbia, I don’t feel quite at home because my mind differs the mindset of the people and I don’t really feel we have much in common. I feel like they have a completely different mindset than me... One of our traditions is that we use retarded words when we talk to each other. Serbian

#### **Emirati statement about Citizenship:**

I disagree with your opinion [pointing to the Girl]. I don’t think there should be any sort of Second Class Citizens in any country. There should be Citizens and there should be Non-Citizens. And if you take a country like Bahrain, Qatar or Kuwait, they have a huge numbers of Non-Citizens and they give them all Passports. And it is kind of working against them because a lot of these countries have trouble because expats want more rights, more jobs, more equality and they will never get that. So I don’t know, but if you have lived here long enough, worked here longed enough then yes

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youths born and/or living in the US without visas. Normally US emigrants can become naturalized US citizens, that is, unless they or their parents entered without a visa. The Dream Act would have given youths who resided in the US for at least five consecutive years since their arrival (before their 16<sup>th</sup> birthday); those who attended a US high school; and those who are enrolled in an institution of higher education -- a way to obtain proper visa status and eventually gain citizenship (Library of Congress 2009-2010). This was not passed by congress, but the put into effect a presidential degree in the summer of 2012.

you deserve it. But it should not be as easy to get as American Citizenship.

**Citizenship:**

Sudanese: Probably don't think so. No.

But then the only thing is the fact that is you know that UAE people there are not a lot. So if they get a really mix with other culture, this is going affect the main culture. [Replying to girl's reply: It already affect the main culture ] Exactly that is what I am saying! They want to sustain that for longer as they can. And if they start giving Citizenship to a lot of people because a lot are going to live there for thirty years. [Girl: Do you feel the same way? ] Yeah.

But I feel like, if you live here for very long time like thirty or twenty years, I mean this is your country. This is the country that you identify yourself with. You have given, invested in thirty years of your life in this place. So they should really consider giving Citizenships. [To Boy's answer: It already affects the main culture]. The Genie loves the bottle. OKAY but you know what, may be they can give them a new form of Citizenship that isn't Emiratis, but it is Citizens, they get some benefits from living here, like may be a retirement plan. Because as I said there a lot of people they kill their lives to work in this country, so I think they should get something in return from the country itself. Right? Do you feel the same way?Serbian

Loss of traditions:

Yeah, National Day, I used to but not anymore after seeing the havoc on the streets. I kind of lost my sense of traditions because like in Serbia, I would always celebrate Christmas and all these holidays with my family, but now that I have moved here that kind of disappeared and we don't do that as much and not as intensely as we used to in Serbia. So I have lost my sense of traditions from home, kind of adopted new ones here with my friends mostly. [Asking the Boy:] But what kind of traditions do we have as friends here? ...I am confused about my culture.

**LANGUAGE:**

*ORIGINALLY JORDANIAN]* A language barrier yes, like I mentioned some of them are Indians, so sometimes when I talk in Arabic, it is hard for them to understand. And same thing when they talk Indian [HINDI], we don't understand. But we always manage to figure it out. And in the end we all speak English, we all consider one another and make the best out of it. But another thing that we have in common is that we are all university students, like the ones that I hang out with are all university students. So we all have this inner motivation to learn from one another and to achieve success in different ways. Hence, we all help each other to achieve whatever is that they want to achieve.

**Emirati Girl:**

Okay, I believe yes, they should be able to earn citizenship. Especially if they have lived here they whole life and especially if they were born here and their parent have lived here their whole lives and served the country in many ways. And they have, and they benefitted the country in a lot of ways. So, I do think residents should be able to earn or gain their citizenships.

And they are expected to leave after.

**The results for the on-line TCK survey** have been filtered to distinguish gender responses. Other filters have separated Palestinian responses. The reason for separating Palestinian responses is because citizenship for a Palestinian is often not

designated by passport and in a very real sense Palestinian expats living in the UAE are without a country. Filters have also been used to compare and contrast responses from the Indian, US, Palestine and Saudi Arabia. (The survey responses and tables are in the appendix).

**Hypothesis III:** There is significant difference in responses between genders about “home” and expatriation. There is also significant difference between nationalities and cultural identity.

**Significant gender Differences:**

**Q. 24. When thinking about home (Nationals):**

Question: I have more than one country I call home: 8 % more females agreed

Question: Home is where I have less freedom: nearly 4% more females agreed

Question: Home is where I have more freedom: 10% more males agreed

**Q. 21.** Citizenship: 20% more females than males disagreed that expatriates should be able to gain citizenship

**Q. 24. When thinking about home: Indian Responses: (13 respondents)**

Question: I have more than one country I call home: 50% males and 9% females agreed

Question: Home is a place I never lived: 100% male and females agreed

Question: Home is someplace other than the UAE (0%) agreed

Question: I don't know where home is anymore: 0% males agreed but 18.2% females agreed

Question: Home is where I have more freedom: 25% more males agreed and 9.1 % females agreed

**Q. 16:** All respondents agreed that there should be a pathway to citizenship

**Conclusion:** Indian expats call the UAE home, there is some confusion as to where home is among the female, but they have more freedom in the UAE. Males also call India their home, perhaps due to the repatriation of all males to India after a certain age, regardless of their family residence in the UAE.

Significant Western (US) differences:

**Q. 24. When thinking about home: US Responses: (5 respondents)**

Question: I have more than one country I call home: 55% female as compared to 0% male

Question: Home is a place I never lived: 22% females agreed

Question: Home is someplace other than the UAE 50% males agreed but less than 33.3% females agreed

Question: Home is where I have more freedom: 50% more males agreed and 33.3 % females agreed

**Q. 16:** There should be a pathway to citizenship: 27% females agreed more than males.

Significant Saudi Arabia difference:

**Q. 24. When thinking about home: US Responses: (10 respondents)**

Question: I have more than one country I call home: 16.7% males compared to

23% females.

Question: Home is a place I never lived: 16.7% males agreed as compared to 0% females

Question: Home is someplace other than the UAE: 33% males agreed to 7% females

Question: Home is where I have less freedom: 23% females to 0% males

**Q. 16:** There should be a pathway to citizenship: 100% males agreed to 27% females

Palestinian Responses:

**Q. 24. When thinking about home: 8 Respondents**

Question: Home is someplace other than the UAE: 0% males or females

Question: Home is someplace other than the UAE: 0%

Question: Home is a place I never lived: 25% male and female

With home as the UAE: Home is a place I have more freedom: 25% males and 50% females

**Q. 16:** There should be a pathway to citizenship: 100% males and females agreed



## **Russia-China intercultural policy as the strategy of Transbaikal region and Dongbei region co-development in the sociocultural space of the borderland**

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Cultural situation of Russia-China border regions is characterized by such features as rapid development of cultural relations, the dialogue of regional cultures, the use of regional cultural resources. However, there is a certain asymmetry in the level of cultural industry development which aims to enhance the cultural cooperation between border regions in the sociocultural space of Russia-China borderland.

Each region has its own cultural image, that is the set of cultural characteristics, expressed in ethnic and cultural landscape, both spiritually and physically. Regional culture of Transbaikal region (Russia) and Dongbei region (China) has a number of common features:

- cultural borrowing between different ethnic groups living in one region;
- combination of two types elements, both - regional and national.

Based on authentic sources, the author revealed specific cultural potential of Dongbei, represented by the border continental nature due to the historically-cultural closeness with Russian civilization. Describing the cultural potential of the Transbaikal region, the author defines it's competitiveness as unique cultural potential, meaning the quintessence of the eastern and western cultures.

Russian border territories as the binder of East and West play an important role in the Russia-China intercultural policy. A dense network of cross-cultural interactions is formed not only under the influence of a common history, but also in the context of the general conditions for the co-development.

Author considers there are some spheres in the sociocultural space of the borderland, which must be developed. They are:

- extension of scientific and educational relations;
- integration of the regional culture, ethnic and cultural landscape;
- activation of planned work on the organization of activities that contribute to the development of a pride sense in regional culture.

Research practice shows that the experience of China border regional culture development can be expressed by the slogan "unity and stability through regional diversity". Chinese leadership declared goal "the creation of the region with thriving economy, stable politics, beautiful landscape and advanced culture" is consistent with the prospects of building a rich and prosperous, modernized state. And it is noteworthy.

Analysis of Russia-China border territories cultural and civilization features identifies the potential of regional cultural heritage as the main instrument of "outlying areas" co-development.

Coordinating cultural interaction of Transbaikal region and Dongbei, it is interesting to mention some cultural projects for their co-development:

- sociocultural project “History and ethnographic complex”;
- project of cross-border tourist park "Eastern Gate of Russia (Zabaikalsk-Manzhouli)”.

These projects are focused not only to preserve their identity and strengthen the economic development of the territories, but they can also be considered as a resource for cultural broadcast to the neighboring border areas.

Thus, the development of cross-cultural interaction will involve the inter-regional cultural policy that is based on equal dialogue, which would contribute to the co-development of cultural interaction of border areas in order to fit the cultural policy of the regions in the overall development strategy of the national culture.

**Trend Report: Ethnic Cultural Tourism in Singapore****Voon Chin Phua<sup>a,\*</sup>, Doug Berkowitz<sup>b</sup>**<sup>a</sup>Gettysburg College 300 N. Washington Street Box 412, Gettysburg PA 17325

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**ABSTRACT**

Tourism is an important industry in Singapore. The Singapore Tourism Board (STB) actively leverages the country's limited natural resources and short history to ensure the viability and competitiveness of this industry. In this paper, we examine two dimensions of ethnic cultural tourism: pre-trip perception and on-site experiences. Two methods were employed to collect data for the present study: Guidebook analysis and surveys. We reviewed 20 travel guidebooks from the in-store stock of large, chain bookstores in the US (February-May 2009) and Singapore (June-July 2009). Surveys were conducted in the summer of 2009. Our sample size is 147 (49% men, 51% women).

Of the books reviewed, Chinatown and Little India were being promoted more in guidebooks than other ethnic areas, but the descriptions of these two places were not always positive, varying from one book to another. The effects of modernization are a factor generating negative publicity. Little India appears less "Singaporean" as a result of the increase in South Asian immigrant workers. Ironically, this same effect has led to making Little India more authentic in its representation of Indian cultures.

When we asked tourists to list the top three sites in Singapore that they wanted to visit, Chinatown and Little India were mentioned. Most tourists preferred Chinatown not necessarily for its authenticity, but more for its shopping opportunities. The two most common comments about Little India are about its good food and that hostels are located there.

Singapore, no doubt, has utilized the heritage assets of these ethnic neighborhoods and has been somewhat successful in including them for tourists' experiences. With more tourist attractions being launched in recent years, ethnic cultural tourism is becoming more and more accidental.

## Promising Collision

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### ABSTRACT

Promising Collision is an aesthetic, reflective articulation of intercultural insights discovered via autobiographical reflection and analysis of two prominent media editorials, both examined in light of relevant theoretical perspectives. These data sources are merged to forge a pathway toward intercultural learning and transformation within an increasingly global society (Spring, 2008; Wang et al., 2011) offering enriched understandings of diversity, as well as new settings for potential misunderstanding or conflict. This piece demonstrates that cultural dissonance experienced around borders -- whether ethnic, racial, national, socioeconomic, gender, or otherwise -- holds the potential to cultivate significant intercultural understanding. This potential is demonstrated via autobiographical reflection navigating two seemingly divergent approaches to parenting in a situation calling for a particular action. Upon recognizing the difficulty in blending two parenting styles effectively, perspective is found in stepping back to appreciate the unique backgrounds shaping these views, reaffirming shared commitments in the larger process of parenting, and considering ways in which complementarity may be found.

This blueprint for walking through intercultural differences well in a family setting may be applied to additional societal contexts, yet was not evidenced within a dialogue across two U.S. news articles: Amy Chua's (2011) Wall Street Journal article, "Why Chinese Mothers are Superior," and David Brooks' (2011) New York Times article, "Amy Chua is a Wimp." Rather than engaging with intercultural difference as an educative source, each author describes the other's divergence from a particular parenting approach as being inferior. In their dissonance, these authors demonstrate the need in professional contexts to consider how background shapes relational dynamics, and the import of larger commitments within intercultural relationships.

This piece assumes an aesthetic eye amidst divergent notions of parenting by employing collage and poetry (Butler-Kisber, 1998/1999) to interpret and integrate different personal, media, and theoretical perspectives. The choice to employ poetry and collage to explore data is based on the premise that "cognition and representation are inextricably linked," and the use of "different forms of representation can alter perceptibly one's understanding of phenomena" (Butler-Kisber, 1999, p. 3). Poetry and collage allow for, even embrace, the "ambiguity" of intercultural growth by suspending "linear thinking" and allowing more "elusive" emotive responses to be felt and understood (Butler-Kisber, 1999, p. 18). This aesthetic approach for exploring data encourages a more complex understanding and deeper appreciation for the rich and multifaceted world of parenting as an intercultural enterprise shared across distinct individuals with multifaceted perspectives. Moreover, this piece holds implications for teacher education practices and specifically encourages greater opportunity across levels of education for engaging in "borderland" relationships (Arber, 2000, p. 52).

This work does not contrive a simplistic end to cultural tension, but draws impetus from the tension to move toward an enhanced awareness of relational responsibility

across borders (Young, 2012), which takes time - even “generations” as noted in the poem - to practice well. Finding ethical common ground when merging gender, generational, ethnic, linguistic, or other diverse cultural backgrounds is in itself aesthetic work.

Keywords: intercultural education, diversity, globalization, autobiographical reflection, arts-based education research

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## Society II

08:45-10:15, December 15, 2012(Room 2)

**Session Chair:** *Jong Serl Chun*

**175: Effectiveness of Smoking Cessation Program for Male Adolescents in South Korea**

<i>Jong Serl Chun</i>	<i>Ewha Womans University</i>
<i>Kyung Won Baek</i>	<i>Ewha Womans University</i>
<i>Sun Yung Choi</i>	<i>Ewha Womans University</i>
<i>Won Bin Her</i>	<i>Ewha Womans University</i>
<i>Mi Jang</i>	<i>Ewha Womans University</i>

**547: Thinking of a Post Democratic Governance: An Indian Perspective  
Chandra Bhushan**

<i>Prasad Shriwastava</i>	<i>Discovery Learning Solutions</i>
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**205: The Causal Relationship Model of Social Factors Affecting Local Culture**

<i>Natkrita Ngammeerith</i>	<i>Institute of physical education Anghong</i>
<i>Pairatana Wongnam</i>	<i>Faculty of Education</i>
<i>Sompoch Anegasukha</i>	<i>Faculty of Education</i>

**217: Cultural Change, Agency and “Intermittently Reflexive” Action**

<i>Marek Skovajsa</i>	<i>Charles University</i>
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**223: Exploratory Study on Factors Influencing Job Satisfaction of Aged Worker  
with Disability**

<i>Mee Hye Kim</i>	<i>Ewha Womans University</i>
<i>Yong Hee Kwon</i>	<i>Ewha Womans University</i>
<i>Hye Youn Jun</i>	<i>Ewha Womans University</i>
<i>Jung Hwa Moon</i>	<i>Ewha Womans University</i>

**226: Study on the Factors Influencing Preparation of Old Age of Disabled Person  
in Babyboomers**

*Mee Hye Kim*

*Ewha Womans University*

*Eun Kyung Shin*

*Ewha Womans University*

*Hye Youn Jun*

*Ewha Womans University*

*Jung Hwa Moon*

*Ewha Womans University*

**365: The Impact of Cultural and Family Beliefs on Coping with Children with  
Illnesses**

*Miriam Sang-Ah Park*

*Monash University*

*Alvin Lai Oon Ng*

*Universiti Kebangsaan Malaysia*



## Effectiveness of smoking cessation program for male adolescents in South Korea

JongSerl Chun <sup>a,\*</sup>, Kyung Won Baek <sup>b</sup>, Sun Yung Choi <sup>c</sup>, Won Bin Her <sup>d</sup> and Mi Jang <sup>e</sup>

Ewha Womans University

### ABSTRACT

The objective of this study was to implement and verify the effectiveness of a smoking cessation program based on a cognitive behavioral model, composed of six sessions. Participants included 80 male middle school students who smoked. They were divided into experimental (n=35 students) and comparison (n=45 students) groups, and the smoking cessation program was conducted in the experimental group. The experimental group participated in six sessions in the school classroom environment and the comparison group received only one hour education session. Results of self-report scales for smoking behaviors and urinary cotinine and CO levels before and after the program were statistically analyzed with mixed regression including factors for group, time, and a group-by-time interaction. The results indicated that the group effect, time effect, and group-by-time interaction effect were significant for the nicotine dependency. The variation patterns in the two groups became significantly different over time as nicotine dependency drastically decreased in the experimental group, whereas those in the comparison group showed little change from pre-program examination to post-program examination. Significant time effects were observed for smoking cessation efficacy and urinary cotinine levels, reflecting increased smoking cessation efficacy and decreased cotinine levels in both groups across time. The significance of this study is that we were able to develop and verify the effectiveness of a shorter smoking cessation program combined with biological measurement of cotinine and CO for Korean adolescents. The results suggest that this six-week smoking cessation program in male adolescents in South Korea was valid to implement.. We hope that our program goes beyond encouraging teenagers to stop smoking and helps them develop into healthy members of society.

## **Thinking of a Post Democratic Governance : An Indian Perspective Chandra Bhushan**

**Prasad Shrivastava**

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### **ABSTRACT**

A coordinated approach for widening the sociological base of governance across the world essentially demands post-democratism that incorporates sensitivity to duties. While democratic governance focuses primarily on rights with an inbuilt component of 'taking', post-democratism centres around a penchant for 'giving'. It seeks an alternative approach to development, that is, a system which shall be based not merely on rigid rules but also on maximization of values. In a post-democratic society, rights and duties must coalesce which could serve as the bedrock of administrative ethics. Global socio-economic and political changes are very rapid which signify not only a transition from totalitarianism to libertarianism but also from democracy to post-democracy, where every individual is actively involved and where accountability and responsibility come to the centre stage of development. When you think of a post-democratic governance, you actually create a politico-administrative and judicial-legal construct of social and economic justice. This is possible only when a duty-bound approach is adopted and the state makes decisions considering the entire sociological perspective both in theory and practice. Post-democratism believes in proactive means of justice delivery. Here lies the importance of constructive interpretation of constitutional provisions and laws and statutes in a society where the state and the citizenry both are concerned about performing their duties instead of claiming for rights only or predominantly. This concept assumes greater significance in religiously, linguistically and ethnically diverse societies like India and makes the social systems complex. Therefore, it requires all such steps to ensure a delicate balance between the authority of the state and liberty of the citizens. The balancing of their rights need to be limited to prevent any kind of over exercise and the limitations so imposed may be the ground of defining their duties and responsibilities.

## **1. INTRODUCTION**

### **1.1 Growing needs of post-democratism**

Today's world is seeing unprecedented opportunities and challenges for humanity. These opportunities and challenges require us to learn from the tragic mistakes of the past and thereby, require governments to reassert their responsibilities for and to their peoples. As a global community comprising regional communities and national governments, there needs to be renewed emphasis on the ties that bind humanity together and on the need for international cooperation to meet the challenges humanity faces, and to fulfill humanity's potential.

The universally accepted principle is that it is the governments that are responsible for the realization of the right to development and thus for realization of civil, cultural, economic, political and social rights. This can only come about through the meaningful participation of all sectors of society, especially those whose rights are

denied. The challenge is to generate greater understanding and awareness of the human rights-based approach to development domestically and globally as well. However, understanding and awareness is not enough because realization of human rights calls for cooperation and coordination among nations and systems and also the correlativity of rights and duties. A person may be said to have a right when another or others are bound to oblige by law to do or forbear towards or in regard of him. In other words, fulfillment of duties can only protect, respect and fulfill a right. This correlation was clearly highlighted by the Supreme Court of India in *Minerva Mills Ltd v. Union of India* AIR 1980 SC 1789 case where the Court held that the Fundamental Rights and Directive principles of the State Policy enshrined in Part III and part IV of the Constitution of India respectively have a delicate balance hence precedence shall not be given to either of the two over the other. It is mainly because Directive Principles are active obligations of the State, the implementation of which are the essence of protection of rights. This necessitates that we must enter the era of post-democratism which transcends from political democracy and gets consolidated in the form of social and economic democracy. In the post-second World War period democracy did escalate but was founded mainly on the principles of liberty and demands for rights. These demands have been increasingly growing to reach the level where a wide gulf has been created between people's aspirations and administrative complexities. In this backdrop, a sense of responsibility needs to be developed among masses, communities and governments with a view to making them coordinate for protecting the interests of the society.

## **1.2 Defining post-democratism**

In a demand-driven politico-economic system, democratization of Gross Domestic product (GDP) and decentralized public policy making construct the edifice of what I should call the post-democratic governance. By democratization of GDP I mean equitable distribution of resources down to the grassroot level. On the other hand, decentralised public policy making means involving those who are generally secluded from it considering that they do not possess required expertise for policy making. However, it is the commoners who should be regarded as the best source of informational inputs for the policy makers in order to give better outputs and outcomes.

Post-democratism is a shift from 'outlay' to 'outcome' having an approach of not only inclusive but intensive development. Thus, post-democratism may serve as one of the means to create larger social capital reducing the gulf between administrative complexities and peoples' aspirations.

Post- democratism is directly linked and intimately attached to administrative ethics as well as ethics in administration. A basic difference between the two is that while the former believes in efficient service delivery, the latter is concerned with an administration free from corrupt practices. Further, post-democratic ideology may also be visualized from an international perspective. As we know, the world is transitioning from bilateralism to multilateralism, hence it is the right opportune for the nations to understand each other's position and approaches to global development and to take initiatives. The present international situation characterized by politico-economic power struggle, need to create a new financial architecture, the issues of climate change and sustainable development, all need to be addressed with a duty-bound approach, that is, post-democratism.

## 2. CORRELATIVITY OF RIGHTS AND DUTIES

Among the questions that still divide philosophers who are concerned with problems about rights, *inter alia*, include most importantly whether, or to what extent, rights and duties are logically correlative. Despite divergence of opinions, in legal context or under jurisprudential norms there may be a few considerations establishing their logical correlation, such as, (i) a positive in personam right, that is, a right against one specific person requiring him to perform a positive act, and (ii) a class of duties of commitment which should be more properly called obligations. In case of obligations, in most of the cases, it is the state that has to ensure that these obligatory commitments are fulfilled so that rights of diverse nature of the people of that state are well protected and respected. In this backdrop, let us once again refer to the idea of post-democratism which is not to be confused with the notion that it demands a departure from the much-talked about rights-based approach, rather it prefers to give precedence to the duty-bound approach. However, these duties need to be obligatory in nature. In such cases sensitivity towards duties leads to self-assessment of the contribution one makes to the society as a whole. This self-assessment invokes accountability and a sense of responsibility in him and he becomes answerable to himself. This further leads to a better understanding and awareness of his own rights as well as of others.

### 2.1 Legality of rights and duties

While right is a legal claim, duty is a pre-requisite of social solidarity and political stability. A duty-bound approach to development is thus based on the principles of diversity and stability. Working with this approach will lead to greater integration of society and will widen the scope of conflict resolution too.

On occasions critics may point out that duties are not legally executable as these are morally bound. Certainly it is true. But, duties once codified as active obligations, they are coordinated with rights and thereby, become executable through laws or statutes. As referred earlier, the Directive Principles of State Policy enshrined in Part IV of the Constitution of India are morally bound in the form of principles, however, they could be well coordinated with the Fundamental Rights because under Article 37 of the Constitution they have been incorporated as the guidelines for the state to make policies and take decisions for ensuring equitable distribution of resources. In this context they are self obligatory and binding upon the state.

### 2.2 Significance of duties

Internationally, rights-based approach to development was rooted in the international human rights system which is guided by the Universal Declaration of Human Rights adopted by the United Nations in 1948. However, violations of rights continued to increase despite a number of steps taken under the auspices of the UN. The most recent examples have been in the Middle East region. Realizing the importance of duties the UN adopted the Declaration of Human Duties and Responsibilities (DHDR) in 1998 (also known as Valencia Declaration). Under Article 1 of the Declaration (General Provisions), 'duty' and 'responsibility' have been defined. Duty means an ethical or moral obligation, and responsibility, on the other hand, is an obligation that is legally binding under existing international law. The Declaration recognizes that exercise of responsibilities is highly complex and tedious. Therefore, the Declaration says that both state and non-state actors have to be mutual supportive bearers of duties and responsibilities with a view to promoting universal observance of human rights and fundamental freedoms.

Duties are not always moral codes of conduct or a set of unachievable goals, rather, they should be codified as value-based social code of conduct which could be legally supported and hence could be made executable.

It is also a fact that rights inherently present in the socio-economic milieu need to be pulled up to be made explicit for converging individual and social interests, however, for democracies to be founded on the principle of delivery of justice, it is essential to make the mechanism proactive instead of being re-active.

### **3. THE INDIAN PERSPECTIVE**

India is the seventh largest by area and the second most populous country in the world having a population of about 1.21 billion according to 2011 census. It is the third largest economy at purchasing power parity (PPP) in 2011 having a size of US\$ 4.45 trillion and in terms of nominal GDP it is the tenth largest economy with US\$ 1.848 trillion size. The size and status of Indian economy places India strongly in the international community and is rightly considered as one of the Emerging Market Economies (EMEs) along with China, Brazil, Russia, South Africa forming a group like BRICS.

On the socio-cultural front, again it is a great civilization with tremendous social, cultural and ethnic diversity. According to the Census 2011 India houses over 2000 ethnic groups. This extent of diversity along with caste stratification makes Indian society highly complex. Similarly, in political terms too, India shows a complex structure due to multi party system where over 350 political parties work. It has seen an evolution of coalition politics in the last four decades and now coalition politics has emerged as the order of the day. In a country with such a complex structure democracy has been thriving despite being considered a hub of paradoxes. The second fastest growing economy after China and the third largest economy in the world also houses over 47 percent malnourished children below five years of age which is nearly double that of the Sub Saharan countries. Likewise, despite consistently increasing per capita income India still has about 37 percent of its population below poverty line.

These paradoxes signify that Indian democracy faces plethora of challenges. Truly speaking, at times it is also said that Indian democracy is a 'pseudo-democracy'. However, the reality is different. In fact, it is the democracy only that has kept India intact and has made it grow at such a fast rate. This is seminal because, in a democratic society interests of every community or group or individual can only be protected by protecting their rights. This is the basis of cultural integration. The framers of the Constitution of India did realize the importance of democracy hence they institutionalized all such democratic principles, be it social security, religious tolerance (secularism) etc. The socialistic pattern of society based on the 'Doctrine of Distributive Justice' has been our strength. All these made India move rapidly on the growth path but of late, it could not achieve the social development goals as expected. The awareness and demand for rights have also grown at least in the last couple of decades of market economy which has influenced almost every aspect of Indian socio-economic fabric and has widened income gulf between the rich and poor. With the increasingly growing disparity at every level, violent socio-economic or political movements have surfaced posing serious threats to internal security and law and order.

In this context, it is the post-democratic ideology which could serve as the foundational principle of governance so that the services could be delivered on time

and in sufficient quantity protecting the rights of the people so enshrined in the legal texts.

#### 4. CONCLUDING REMARKS

In order to realize human and other rights in India and the world, it is pertinent to address immediately the plight of those who are excluded from the mainstream of development and whose rights are most acutely denied. It is the high time to ensure meaningful participation of the people in decision making. Though communities have started raising their voices demanding services, the time has come to pay heed to such voices. Since the subject of development is the human person who is entitled to the benefits of development and to participate in the process of development, it is crystal clear that the state is required to adopt a strategy based on responsibility and accountability considering that they are obliged to do so. A strategy for inclusive and intensive development demands such active obligations to be fulfilled both by the state and non-state actors. These obligations include issues of public expenditure management, the provision of basic services and related infrastructure, regulation of market and economy and above all redistributive measures. This duty of fulfilling the obligations comprises all such active and proactive measures necessary for guaranteeing opportunities for people to access their entitlements. All such commitments are integral components of post-democratic ideology. Thus, the prime focus of the ideology or a duty-bound approach is on prevention of violation of rights proactively not re-actively.

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## The Causal Relationship Model of Social Factors Affecting Local Culture\*

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### ABSTRACT

The objectives of this research were: 1) to study the cultural effects of social changes in local, and 2) to develop a causal relation model of social factors which affects social cultures as a result of social changes. To accomplish this, the multi-stage random sampling technique was employed. It consisted of 800 samples from 16 provinces around Thailand - 4 provinces in each region including the local representatives composed of the person in charge of the cultural activities in schools, districts, and provinces. The researcher constructed questionnaires wherein 5 scales of measurements were applied to this group for collecting data. Basic Statistics and the relation coefficients between observed variables were analyzed by The Statistical Package for the Social Sciences (SPSS for Windows). The causal relationship model was analyzed by LISREL 8.80. Findings were as follows:

1. For cultural effects according to social changes; psychological, social, political, and religious factors carried out positive effects. On the other hand, communication, innovation and technology, geography and natural environment, economy, and educational factors had negative effects.
2. The causal relationship model were well-consistent with empirical data, as  $\chi^2 = 11118.82$ ,  $p = .000$ ,  $df = 6238$ ,  $\chi^2/df = 1.78$ , Comparative Fit Index (CFI) = 0.98, Root Mean Square Error of Approximation (RMSEA) = 0.031. All variables explained the variance of the local culture at 61 percent. Five (5) Factors that affected directly on the local cultures were geography and natural environment, economy, social, psychological, and political factors.

Keywords: The Causal Relationship Model / Social Factors / local culture

### 1. INTRODUCTION

A nation's culture is one of the most important aspects of its identity. It serves as the foundation of its sovereignty and independence. A unified culture has been established and developed in Thailand which provides a unique expression of the spirit of the nation and it has continued to make way for a variety of lifestyles. The cultural heritage and local wisdom of the communities has become the current era of globalization.

Cultural expansion has been spreading globally, from the center of several major attractions in Europe, America and Asia and into Thailand fast through various forms of media and modern communications.



Thailand's culture has always been rich and diverse and has remained steadfast amidst the onslaught of western influence. However, modern technology has opened avenues for reformation and with better communication we are often overwhelmed with novel ideas for suggestions to cultural changes. The society has been pressured by the masses and the foreign media to adapt to the changing times in order to survive.

As a result, the lives of people in all aspects of the society have changed drastically. The economic policies, societal foundations, politics, education system, and public health of the country have undergone a subtle reformation. This reformation has resulted in a chain of events that has impacted the greater part of the communities in the country. Social estrangement in religion has been observed from among its people and ignorance of spiritual values has vastly proliferated. Initially, our people have been described as gentle and aesthetic (Ministry of Culture, 2009). However, the constant barrage of subliminal suggestions from various media has caused a departure from the original cultural values. There have been a lot of observed instances where sexual behavior is not appropriate from among our people. Furthermore, the youth has been showing a lack of respect for elders and the vast majority has also shown a lack of love and unity of the nation (Culture Surveillance Center, 2010). These changes have greatly affected the different communities in various ways.

Therefore, these researchers developed an interest to study the cultural impact caused by social changes in general and the factors that are important to the local. The researchers also endeavored to construct a causal relationship model of social factors whose impact are based on community social changes. Their main aim was to develop and validate models of social factors that affect the local by empirical data based on actual tests initiated with theoretical models. They established a model of the causal relationship of social factors that affect the cultural communities in Thailand. They observed that to be able to create and expand the body of knowledge on all of this research, it is necessary to make a model of the causal relationship of social factors that affect the local culture. The results of this study can be used for the improvement of culturally relevant local entities for effective policy development and planning.

### **Objectives of research**

The objectives of this research were:

- 1) To study the cultural effects of social changes in local
- 2) To develop causal relation model of social factors which affect social cultures due to social changes

### **Conceptual Framework**

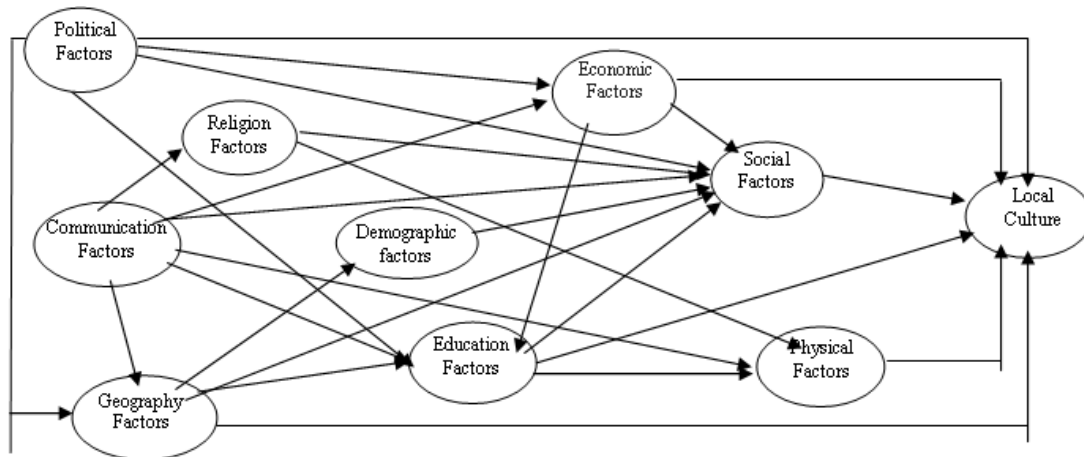


Figure 1. Hypothesized model of the causal relationship model of social factors affecting the Local culture

### Research hypotheses

Based on the preliminary data collected, the following causal relationships have been predicted as the possible factors affecting the local culture:

1. Political factors directly influences the local culture which in turn is indirectly influenced by geographic factors and the natural environment which is further affected by economic and social factors which are further influenced by educational factors and educational factors which are also influenced by demographic factors while demographic factors are influenced by psychological factors.
2. Economic factors have a direct influence on local culture while local culture is indirectly influenced by social factors which in turn are influenced by educational factors and psychological factors.
3. Psychological factors have a direct influence on local culture.
4. Social factors have a directly influence on local culture.
5. Religious factors have indirect effects on the community through social, cultural and psychological factors.
6. Educational factors influence the culture of the local and are indirectly influenced by social factors and psychological factors.
7. Geographical factors and natural environment directly influences the local culture and is influenced indirectly through demographic factors, social factors, educational factors and psychological factors.
8. Communication factors, innovation and technology are influenced by local culture through the indirect influence of economic factors, social factors, educational factors, geographic factors and the natural environment, demographic factors and psychological factors.
9. Demographic factors have an indirect influence to the local culture through social factors.

### Methodology

This Quantitative research was conducted by the following three steps.

Step 1 Create a framework to model the causal factors and social impact of the culture based on the communities.

Step 2 Specify the models of the causal relationships of social factors that affect the local culture by using The Structural Equation Model: SEM. The hypothetical model consists of 10 variables including: 1) economic factors 2) social factors 3) political factors 4) physical factors 5) demographic factors 6) the Communication

factors, innovation and technology 7) geographical factors and the natural environment 8) religious factors 9) psychological factors and 10) local culture as shown in Figure 1.

Step 3 Create the query. It involves the collection of quantitative data, analysis of data, and the selection of models and samples. The sample consisted of community representatives who were responsible for the culture of the school in their district. The multi-stage sampling (Multi-Stage Sampling) for the 4 regions and 16 provinces of sample consisted of 800 samples.

### **Instrument**

The tools used for data collection was a questionnaire with 5 levels (Rating Scale) which were created by using a form of Likert's scale with the following criteria. Level of meaning 1 = strongly disagree, 2= disagree, 3 = undecided, 4= agree and 5= strongly agree.

A total of 10 units, including 1) Political factors 2) Communication factors, innovation and technology 3) Geographical and natural environment 4) Education factor 5) Social factors, 6) Religious 7) Economic Factors 8) Demographic factors 9) Psychological factors and 10) Local culture. Each set contains the Cronbach's Coefficient Alpha for each series is equal to .73, .86, .89,.86, .92, .96, .88, .89, .94 and .96, respectively.

### **Analysis**

1. Basic data of the sample were used to determine the nature and characteristics of the sample distribution. Variables were analyzed by using descriptive statistics, including mean, standard deviation, percentages, skewness and kurtosis.

2. Checking the consistency of the theory with structural equation model using empirical data by using Program LISREL 8.80 (Joreskog and Sorbom.1993) and estimated parameters by using Maximum Likelihood Estimation (ML).

## **2. RESULTS**

### **2.1 Analysis of the sample data.**

Table 1: Description of the samples

Attributes	Numbers of respondents (n = 800)	Percentage
1. Gender		
Male	308	38.50
Female	492	61.50
2. Age		
Less than 20 years.	237	29.63
20 to 30 years.	193	24.13
31 to 40 years.	167	20.88
41 to 50 years.	134	16.75
More than 50 years.	69	8.63
3. Status		

Student	302	37.75
Administrators /Teachers.	221	27.63
Surveillance cultural	35	4.38
Cultural City	2	0.25
Cultural District.	22	2.75
Organization.	172	21.50
Community leaders.	46	5.75
4. Domicile		
Central.	200	25.00
North	200	25.00
North East	200	25.00
South	200	25.00

Table 1 Frequency distribution of the percentage of respondents. Groups of respondents were composed of 308 male and 492 female, which were 38.50 and 61.50 percent respectively. Respondents under the age of 20 consisted of 237 persons or 29.63 percent, followed by those aged 20-30, which consisted of 193 persons or 24.13 percent, between the age of 31-40 consisted of 167 persons or 20.88 percent, aged 41-50 years was 134 or 16.75 percent, and those people older than 50 accounted for 69 people or 8.63 percent.

With respect to status, majority of the sample were students which consisted of 302 people or 37.75 percent. Secondary administrators/teachers followed closely at 221 people or 27.63 percent. Next came the organization which consisted of 172 people or 25.50 percent then followed by the community at 46 samples or 5.75 percent. The minority consisted of surveillance cultures at 35 samples or 4.38 percent; cultural district at 22 samples or 2.75 percent and finally cultural district at 2 samples or 0.25 percent.

The domiciles by region were 200 samples or 25.00 percent from Central; 200 samples or 25.00 percent from the North; 200 samples or 25.00 percent from the East; and 200 or 25.00 percent from the South.

Table 2 mean values. Standard deviation values are skewed (Skewness) and the kurtosis (Kurtosis) of latent variables.

Latent variables.	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
1. Political factors	3.49	0.56	-0.21	0.38
2. Communication factors, Innovation and technology	3.69	0.59	-0.16	-0.14
3. Geographical factors and natural environment	3.50	0.55	-0.09	-0.05
4. Educational factors	3.71	0.61	-0.19	-0.03
5. Social factors	3.70	0.52	-0.18	-0.14
6. Religious factors	3.91	0.59	-0.17	-0.31
7. Economic factors	3.20	0.63	0.11	-0.24
8. Demographic factors	3.77	0.62	-0.20	0.09
9. Psychological factors	3.18	0.62	0.04	0.01
10. Local Culture	3.11	0.63	0.13	-0.27

Table 2 Effect of culture from the social community which showed that local culture impact is moderate ( $M=3.11$ ,  $SD=0.63$ ). Factors that affect the local culture level with the top, the religious factors ( $M=3.91$ ,  $SD=0.59$ ), followed by demographic factors ( $M=3.77$ ,  $SD=0.62$ ) and educational factors ( $M=3.71$ ,  $SD=0.61$ ), respectively.

## 2.2 A causal model of social factors that affect the culture of the local.

The social model which is consistent with empirical data has proven to be satisfactory. The results of the chi-square is equal to 11118.82, and p-value equal to 0.00, the degrees of freedom equal to the 6238,  $\chi^2/df$  equal to 1.78, CFI was 0.98, and RMSEA was 0.031. A coefficient predicting the dependent variable, which is local culture, is equal to 0.61. Variables in the model that could account for 61 percent of local culture variables. On the route influences affecting the local's culture has been influenced by factors including Communication factors, innovation and technology (-0.63 effect size), economic factors (-0.24 effect size), religious factors (0.23 effect size), political influence (0.20 effect size), social factors (0.12 effect size), natural environment and geographic factors (-0.11 effect size), and demographic factors (0.02 effect size), respectively. All factors are statistically significant at the 0.05 level.

Meanwhile, when considering the influence of the factors that influence the culture of the local, there were 5 factors that had a direct effect, psychological factors (0.66 effect size), economic factors (-0.25 effect size), political factors (0.14 effect size), natural environment and geographic factors (-0.13 effect size), and social factors (0.12 effect size), respectively. All factors are statistically significant at .05 levels.

On the other hand, there were 7 latent variables found having indirect effect on the local culture. Those latent variables were political, communication, innovation and technology, religion, geography and natural environment, education, demographic, and psychology. The first factor seems to have the most influence through the others with the effect size of -0.63, while the education factor (-0.45 effect size) had an indirect influence to local cultures through social and psychological factors. Also, religious factor (0.23 effect size) had an indirect influence through social and psychological factors. Psychological factor (0.12 effect size) had an indirect influence through social factor. Political factor (0.06 effect size) had an indirect influence through geographical and natural environment, social, and demographic factors. Furthermore, the geography and natural environment (0.02 effect size) had an indirect influence through demographic and social factors. Meanwhile, The Demographic factors (0.02 effect size) had indirectly influence through social factors. All of these latent factors, anyways, are statistical significance at the .05 level.

The factors that have a positive impact on local culture are: (i) psychological factor, (ii) social factor, (iii) political factor, (iv) demographic factor, and (v) religious factor. The factors that have a negative impact on the local culture include: (i) communication factor, (ii) innovation and technology factor, (iii) geographic and natural environment factor, (iv) economic factor, and (v) educational factor. As shown in the Figure 2 and the Table 4.

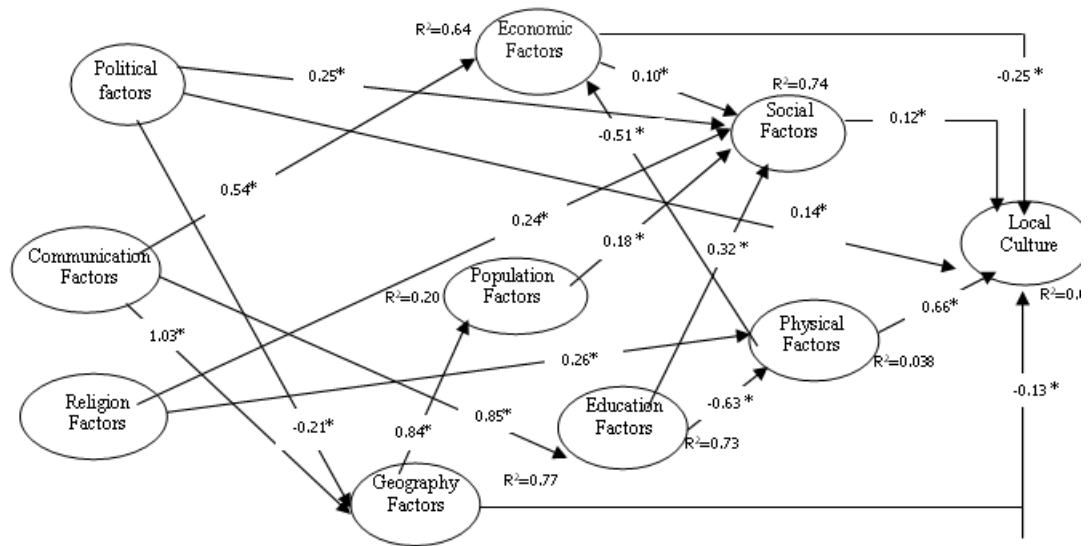


Figure 2. Models in social the causal relationship factors that impact on the local culture Chi-square=11118.82, df = 6238,  $\chi^2 / df = 1.78$ , P- value =0.00, CFI= 0.98; RMSEA=0.031

Table 4. The analysis of the correlation coefficient between Variables and the coefficients:

The influence of the relationship model on the Causal social factors that impact on the local culture model.

(Note: POL = Political factors, COM= Communication factors, Innovation and technology GEO = Geographical factors and natural environment, EDU=Educational factors, SOC=Social factors ,REL=Religious factors, ECO= Economic factors, DEO= Demographic factors, PSY= Psychological factors, CUL= Local Culture)

Variable Causes.	POL			COM			REL			GEO			EDU		
	TE	IE	DE	TE	IE	DE	TE	IE	DE	TE	IE	DE	TE	IE	DE
GEO	-0.21*	-	-0.21*	1.03*	-	1.03*	-	-	-	-	-	-	-	-	-
EDU	-	-	-	0.85*	-	0.85*	-	-	-	-	-	-	-	-	-
SOC	0.21*	-0.04*	0.25*	0.51*	0.51*		0.23*	-0.01	0.24*	0.15*	0.15*	-	0.35*	0.03*	0.32*
ECO	-	-	-	0.82*	0.28*	0.54*	-0.13*	-0.13*	-	-	-	-	0.32*	0.32*	-
DEO	-0.17*	-0.17*	-	0.87*	0.87*	-	-	-	-	0.84*	-	0.84*	-	-	-
PHY	-	-	-	-0.53*	-0.53*	-	0.26*	-	0.26*	-	-	-	-0.63*	-	-0.63*
CUL	0.20*	0.06*	0.14*	-0.63*	-0.63*	-	0.23*	0.23*	-	-0.11*	0.02*	-0.13*	-0.45*	-0.45*	-

Table 4 (continued)

Variable causes.	SOC			ECO			DEO			PSY		
Variable results.	TE	IE	DE	TE	IE	DE	TE	IE	DE	TE	IE	DE
EDU	-	-	-	-	-	-	-	-	-	-	-	-
SOC	-	-	-	0.10*	-	0.10*	0.18*	-	0.18*	-0.05*	-0.05*	-
ECO	-	-	-	-	-	-	-	-	-	-0.51*	-	-0.51*
DEO	-	-	-	-	-	-	-	-	-	-	-	-
PHY	-	-	-	-	-	-	-	-	-	-	-	-
CUL	0.12*	-	0.12*	-0.24*	0.01	-0.25*	0.02*	0.02*	-	0.78*	0.12*	0.66*

Chi-square = 11118.82 ; p-value = 0.00 ; df = 6238 ;  $\chi^2 / df = 1.78$  ; CFI=0.98; RMSEA= 0.031

R-SQUARE of the local culture = 0.61

\* $p < .05$

## 2.3 Conclusion of the study and recommendations

### (1) Conclusion and discussion on the study results

#### Impact Study of cultures

Culture is the totality of learned, socially transmitted customs, knowledge, material objects and behavior. It includes the ideas, value, customs and artifacts' of a group of people (Ministry of Culture, 2009). Culture is a pattern of human activities and the symbols that give these activities significance. It is what people eat, how they dress, beliefs they hold and activities they engage in. It is the totality of the way of life evolved by a people in their attempts to meet the challenges of living in their environment, which gives order and meaning to their social, political, economic, education, religious, communication, innovation and technology. These distinguish people from their neighbors.

Social changes due to the developing plan for the nation (Kongjaroen, 2011). According to the plan, as the country developed and changed, cultures have been impacted by both positive and negative ways. The changes are resulted from, as mentioned earlier in this study, geographic conditions, natural resources and environment, communication, innovation and technology, psychological factors, social factors, religious factors, physical and economic factors.

#### Models of social causal relationship factors.

There is an intimate relationship between society and culture. When culture changes as a result of the factors mentioned above, the repercussions are observed in the society. As a result of these factors, much of our lifestyle, values and traditions have changed.

As mentioned above, cultural changes can have both positive and negative impact. The positive impact involves psychological, social, political, demographic and religious factors. The factors that have a negative impact on the local culture include communication factors, innovation and technology, geographic factors and natural environments and economic factors and educational factors.

Of the negative factors that impacted the local on a huge level is innovation and

technology. The affordability of the latest hi-tech gadgets to school children have resulted in them spending more time playing games online than on their studies. They spend less quality time with their family and getting to know their peers and school friends. This in turn results in children lacking in social skills and who exhibit behavioral problems. They lack respect to their elders and have lost the desire to be better citizens of their country.

## **(2) Suggestion**

The results of this research revealed a need to study the individual impact of the factors examined in the study to communities in Thailand. The people should be informed of how social changes have changed our cultural heritage so that we can take steps to preserve our culture and our Thai-ness.

There should be a long-term follow-up research about the transformation of local culture and what caused these changes.

There should be a research on cultural development appropriate for the local communities so that each one of us will learn how to appreciate and enrich our culture.

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**Cultural change, agency and “intermittently reflexive” action<sup>\*</sup>**  
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**ABSTRACT**

This paper investigates how action, reflexivity and culture are interrelated in dynamic cultural processes. In what follows, I will, first, sketch out the background of the intense engagement with culture in some recent sociological literature. Subsequently, I will review Ann Swidler’s conceptualization of culture and point to some limitations of her approach which, in my view, reside in the unclear status of agency. Next, Margaret Archer’s work on culture and agency will be discussed bringing to light both the strengths of her conception of agency and the deficiencies in her view of culture. A revised understanding of the relation between culture and agency will then be used to propose an alternative model of reflexive cultural change that is suitable for studying the cultural dynamics of broad social processes in highly modern societies.

The problem of agency is probably more often underestimated or even completely ignored in sociology than in philosophy. Social structure (one’s class position, status, gender and other similar properties) and culture (ideas, beliefs, shared meanings etc.) are assumed to be able to explain social outcomes without any need to investigate the mediating processes that take place on the level of self-conscious agents. In many instances of such thinking, agency is not outright denied, but it is either supposed to work in an uninteresting way or dealing with it is seen as unnecessary, unproductive, or too difficult. In particular, quantitative macroscopic studies of social, economic and political life tend to see the causal efficacy of structure and culture on behavior as unproblematic. All that researchers look for are distinct patterns of variation between structural or cultural variables on the one hand and the dependent behavioral variable on the other. Such an effort takes place in total disconnect from any serious attempt to provide a specification of the causal mechanism involved.<sup>38</sup> If investigators do provide some insight into how the independent variables exert an effect on the dependent variable, they are easily satisfied with a list of intervening variables along with the hypothesized causal connections between them, but no account of how this sequence of causal processes works on the level of the individual agent(s) is provided.<sup>39</sup> Even in studies that do not ignore the role of agency in mediating social outcomes, as illustrated by a recent work on the influence of culture on population health in cross-national comparison (Hall and Lamont 2009), the problem of agency does not receive the kind of detailed treatment it deserves.

In this paper, I am adopting the contrary perspective, namely that due attention to

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<sup>38</sup> The fullest definition of causality that can be found in a widely used methodological textbook for political scientists is this one: “the causal effect is the difference between the systematic component of observations made when the explanatory variable takes one value and the systematic component of comparable observations when the explanatory variable takes on another value” (King, Keohane, Verba 1994: 81-82).

<sup>39</sup> In the sociology of education, for instance, differential educational attainment (the highest educational level achieved) is explained with reference to the socioeconomic status of the parents which is assumed to be causally efficient through various possible intervening variables, such as significant social environment, the level of cultural capital at home, educational and professional aspirations and others.

agency is not just a highly productive, but rather an indispensable element of sociological analysis, one that should be fully integrated into all standard sociological pursuits, including the investigation of social and cultural change. My central objective here is to propose an explanatory schema of cultural change that draws upon the views on the relationship between culture and agency which can be found in the work of two contemporary social theorists seriously interested in culture, Ann Swidler and Margaret Archer. To my knowledge, there has been no attempt so far to contrast these two approaches that represent two divergent lines of contemporary sociological thinking on culture. In what follows, I will, first, sketch out the background of the intense engagement with culture in some recent sociological literature. Subsequently, I will review Swidler's conceptualization of culture and point to some limitations of her approach which, in my view, reside in the rather unclear status of agency. Then Archer's work on culture and agency will be discussed bringing to light both the strengths of her conception of agency and the deficiencies in her view of culture. A revised understanding of the relation between culture and agency will then be used in suggesting a variation on Archer's model of cultural change.

### **1. Culture in recent social sciences: without agency**

The long list of deficiencies to be found in the existing approaches to culture that was compiled by Brightman (1995) indicates that many recent conceptualizations of culture have been flawed by one or more of the following vices: reification and abstraction, focus on ideas and meanings at the detriment of practices and actions, legalism, objectivism and superorganicism, holism, generalization (with concomitant indifference to concrete individuals and events), homogenization, totalization, undue emphasis on discreteness (as against the overlapping character of cultures), ahistoricism, primordialism, or representationalism.

Several of the problems identified by Brightman point to an alarming neglect of agency in the theorizing on culture. Cultures consist of beliefs or intersubjectively available meanings, that is items in some sense internal to acting subjects, and it might therefore appear less likely that they will be analyzed without any reference to agency than the parallel concept of social structure<sup>40</sup> which is in the common sociological imaginary represented as external to the agent. However, there has been a tendency to conceptualize culture in analogy to social structure as an objective and reified entity with the agent conceived of as having values, beliefs or attitudes in the same way s/he has new shoes or glasses. In such modes of thinking about culture, there is no sense of the agent being the active subject and co-creator of culture.

Despite the formidable amount of critical invectives heaped on culture in social science literature in the last decades, the concept is still relatively well and alive and it continues to occupy a central position in some strands of research. As much as it may be deplored by many authors, culture seems to have survived all attacks by virtue of its being one of the "essentially contested concepts" (Gallie 1956) which by far not every social scientist likes, but few never use. And not everyone really believes that

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<sup>40</sup> William Sewell (1992: 3) rightly notes a widespread ambivalence of the concept of structure. For sociologists, structure denotes the material pattern of organization of society (classes, relations, institutions) and is contrasted with culture as the general concept for mental or meaningful social phenomena. In the structuralist language, in contrast, culture is the central locus of the actualization of "structure". To further compound the confusion, there are sociological schools inspired by structuralism, such as Giddens' structuration theory (Giddens 1993), which carefully distinguish their concept of structure from what is called structure in common sociological language (and what Giddens terms social system) and conceive of structure as both material and mental in nature.

culture is an *essentially* contested concept, as constant attempts at its redefinition demonstrate.

In sociology, one major revival in the study of culture as a central factor of social life has occurred in the last thirty years bringing to life various sociologies of culture or cultural sociologies represented by a long list of authors including, among many others, Pierre Bourdieu, Robert Bellah, Ann Swidler, Robert Wuthnow, or Jeffrey Alexander. The proponents of cultural sociology diverge on many substantive points, but concur in criticizing the towering figure of the mid-20th century sociology, Talcott Parsons. The central critical argument is, in most cases, that Parsons had an “oversocialized” conception of human action, which exaggerates the extent to which society is integrated on the level of cultural values and accords excessive efficacy to the process of socialization, through which cultural orientations are inculcated into the personality systems of individual members of society. As a consequence of both these facts, Parsons’ theory also fails to provide an adequate account of human agency vis-à-vis culture.

At first sight, this stereotypical criticism of Parsons seems to be contradicted by a statement that can be found in one of his later texts:

Cultural systems, however, are by no means fully integrated but may be regarded as varying from a pole of virtually complete integration to one of a nearly random assortment of meaning components. Furthermore, the actual behavior of individuals, their symbolically oriented action, may be to a widely varying degree congruent with the meanings of the cultural system. (Parsons 1973, 35)

However, what this statement allows for is merely the *empirical* variation in the degree of congruence of individual action with the cultural system. On the *theoretical* level, there seems to be little doubt that Parsons treated the situations where cultures are not internally congruent and agents enjoy significant measures of autonomy in respect to them as pathological cases of defective socio-cultural integration. Parsons’ social theory provides no means for conceptualizing culture as an internally inconsistent, dynamic, fluid, unstable and fragmentarized system of meanings governing human action. But it is precisely the image of a less-than-fully coherent cultural system and of relative autonomy of the individual agency in relation to culture that is attractive for current cultural sociologists. One of them, Ann Swidler has suggested that culture can best be studied as a symbolically organized reservoir of meanings and other “tools” for the “strategies of action” deployed by actors to solve the most central problems of their social life. In her more recent work, she has developed some very interesting arguments about the non-deterministic way in which culture affects action and about culture as a set of social practices.

## **2. Ann Swidler’s view of culture: strategies of action and routinized practices**

*Definition of culture.* Swidler framed her proposal for a new conceptualization of culture into an explicit critical debate with three major figures in the tradition of thinking about culture in social sciences: Weber, Parsons and Geertz. Following Clifford Geertz and the line of social anthropology influenced by him she adopts the view that culture can be defined as “the publicly available symbolic forms through which people experience and express meaning” (Swidler 1986: 273). Accordingly, she describes culture as consisting of “such symbolic vehicles of meaning, including beliefs, ritual practices, art forms, and ceremonies, as well as informal cultural practices such as language, gossip, stories, and rituals of daily life.” (ibid.) Culture, thus, is for her neither the all-encompassing “way of life” of the older social

anthropology nor values or value orientations that are central to Parsons' concept of culture.

*From culture as ideas to culture as a tool-kit for constructing strategies of action.* It is from the rejection of the Parsonsian notion that values, as central elements of the cultural system, govern action that Swidler proceeds to build her alternative view of culture. Discussing the once fashionable concept of the "culture of poverty" proposed by Oscar Lewis in the 1960s she makes the following argument: according to Lewis, the poor develop at an early age values that make them unfit to succeed in society and break out of the self-reproducing cycle of poverty. But empirical evidence suggests otherwise. The poor have many values and aspirations in common with the middle-class. They aspire to high incomes, stable marriages or college degrees no less than the members of the middle class do. Thus, according to Swidler, the difference between the youth from destitute backgrounds and their middle-class counterparts consists in something else than values, namely in the skills, habits and styles of action they can find in their social environment. The actors adopt their lines of action to pursue various aspirations in making a selection out of these skills, habits and other capacities available in their culture. If there are no skills and habits in a culture that fit the given value or aspiration, the actor is incapable of pursuing these with any reasonable degree of success, which seems to be the case of the "culture of poverty" syndrome.

Whereas ideas for Weber or values for Parsons were the elements pushing action in a determinate direction, Swidler suggests that culture can be better described as a repertoire or tool-kit from which acting subjects draw tools for constructing their own lines of action. Let us briefly explore the implications of the metaphor of a tool-kit for the concept of culture. Firstly, as there is no tool-kit in the real life that contains the tools for all the tasks one can possibly face, so will the cultural tool-kits lack tools for many specific tasks, even though they will be fairly comprehensive in the variety of tools they contain. There is no universal fit-all culture. Secondly, each tool of a tool-kit can usually be put to a number of regular uses. The scissors are used for different purposes than a hammer or a tablespoon. But besides its regular uses, there is usually also a set of other purposes a tool can be utilized for if circumstances require it. If need be, a spoon can be used instead of fork or knife or scissors in place of a screwdriver. To return to the concept of culture, the tool-kit metaphor indicates that each cultural element has its regular modes of employment, but there is also some allowance for a certain measure of innovation and improvisation. This opens up an interesting perspective on cultural change to be further explored below. Yet, by far not anything goes. For, thirdly, certain tools can never be used effectively in place of certain others. A knife will never be an adequate tool for eating a soup and scissors will not fell a tree. Equally, in the cultural realm, the components of the cultural repertoire cannot be put to random uses.

The image of culture as a tool-kit is a fitting one, but it has also its limitations. It would be misleading to look for parallels in cultural action of such acts as that of turning a screw with a screwdriver and focus on single tasks accomplished by the agent using a specific cultural capacity. For Swidler – explicitly rejecting Parson's concept of a unit act – lays stress on the fact that action is "integrated into larger assemblages" which she calls "strategies of action". (276) In her later work *Talk of Love* she provides a well-argued account of the importance of these strategies of action for an adequate conceptualization of culture. Building on Hans Joas' (1996: 161) idea that goals and means of action mutually condition each other in a concrete situation, Swidler rejects the notion that culture is a repository of values from which the acting subject draws when specifying the goal of every particular act. To the

contrary, action is situational, continuous, habitualized, and patterned over time (Swidler 2003: 82). The strategies of action are the “ways actors routinely go about attaining their goals”, but despite the explicit mention of goals in this definition, the means are the more important components of action, for these are the culturally conditioned skills, styles, and habits that when routinely used in certain combinations constitute a strategy of action.

The concept of a “strategy of action” seems to have utilitarian implications, but this is not what Swidler means. Strategies of action are general ways of solving the central problems of human life and the particular ends they seem to be serving are internal, rather than external to them. “A strategy of action involves a characteristic way of solving problems and characteristic sets of problems to be solved.” (86) As Swidler tells us, the common strategies of action in American society include cultivating one’s capacities in order to be successful on the job market, forming deep alliances with the family, building a network of acquaintances, joining a gang and others. These strategies are not the outcome of the pursuit of concrete ends and do not result from utilitarian calculations. To the contrary, the goals, including those that can be interpreted in a utilitarian manner, are internal to these strategies. The goal, for instance, of attaining higher education makes sense in the context of only one of these strategies, namely becoming successful on the job market. It is internal to this particular strategy and external, or rather utterly irrelevant, to the remaining ones.

*The problem of values as internal to the strategies of action.* The above line of argument does not seem to be entirely convincing. Swidler needs an account of why certain people choose some strategies of action over others. Why one person becomes an engineer working in regular employment and another ends up as a gang member? If it is not the values or goals people have and act on (and the premise is that these will become our goals only after we choose one particular strategy of action, which means that they are not available to us at the moment of choice<sup>41</sup>), then what explains the difference? I would argue that the problem is not resolved by calling upon the agency of the subject (something Swidler doesn’t do directly in this context anyway), for then the agency would be either unconstrained by cultural conditions to the point of arbitrariness or there would be no agency at all. If my culture (1) contains the elements that are sufficient for composing the strategies of action as divergent as employed life, gang membership and sustenance by family and (2) there are no values or goals that can inform my choice prior to my choosing one strategy of action, then we are confronted with a choice that is completely arbitrary within the range of options provided by my culture. I am not inclined to think of agency in this excessively voluntarist fashion. Alternatively, if it were asserted that the agents are born or socialized into a strategy of action, then apart from clearly missing the evident voluntarist element in Swidler’s account of how individuals choose and construct their strategies of action, this claim would deny the free agency of the subject. Actors would adopt strategies of action as they are imposed on them by their significant environment.

The closest that Swidler gets to clarify the problem of what represents the basis for the choice of a strategy of action is when she writes: “The fundamental notion is that people develop lines of action based on who they already think they are.”

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<sup>41</sup> Swidler explicitly formulates this position when she writes: “Commitment to particular values, including the ability to consult them and *to apply them to specific choices*, is one of the cultured capacities that make a strategy of action possible, *rather than the cause of the adoption of that strategy.*” (Swidler 2003: 87; emphasis added)

(Swidler 2003: 87) Unfortunately, her concept of individual identity and of what identity consists of remains underspecified. She seems to mean that identities can be understood in terms of cultural capacities that the individual has made her own. But this idea, with all its plausibility, does not help us to break out of the circle, for the question remains based on what do people choose particular cultural capacities over others? Either they don't choose them and their agency is thus severely limited. Or there is an element of choice present, but then the choice is arbitrary.

Furthermore, this problem cannot be resolved by claiming (something Swidler doesn't do) that the one large culture of a society in fact breaks down into several partial cultures and postulating simplistically that one partial culture = one strategy of action. This would amount to gross cultural determinism. The difficulty thus persists. Whenever we admit that one culture allows for a choice between various strategies of action and assume that all goals and values are internal to these strategies, we end up facing the dilemma of unfounded choice of any particular strategy.

A similar problem can be identified in Swidler's anti-Weberian argument that the Protestant values cannot account for the unique development of Western capitalism. All non-Western cultures have developed, argues Swidler, either in the past or recently, value orientations similar to Protestantism. Today, those societies pursue the values conducive to Capitalism employing the tools from their own cultural tool-kits that are, unlike values, culture-specific. "Culture shapes these societies not through values but by furnishing a repertoire of capacities for action that can be mobilized to achieve new objectives." (81) This claim precludes her from making the argument which would support her general position, namely that Capitalism did not develop in non-Western settings for a lack of adequate tools in their tool-kits and thus the impossibility to build strategies of action to fit with Capitalist values. Instead, we are left with a puzzle: if non-Western cultures had both the values and the tool-kits sufficient for the development of Capitalism, why did the Capitalist pathway fail to materialize? The claim that the real difference between the West and the non-Western cultural areas consists not in values, but in different cultural tool-kits sounds appealing. But what else are the "new objectives" those cultures are now mobilizing to achieve than values that were earlier absent from them?

Despite these apparent inconsistencies, Swidler has provided an extremely fitting conceptualization of culture. The de-emphasis of goals and the symmetrical emphasis on means or tools helps us see the contacts between cultures in a new light. The culture of poverty example referred to above indicates that each culture activates a specific set of strategies of action. Other strategies of action cannot be constructed or even conceived of in the framework of this particular culture, for at least some of their crucial components are simply not available in it. However, and this seems to be the tacit assumption present in Swidler's argument about the Capitalist development in non-Western countries, the tool-kits evolve over time and a moment can be reached when a new strategy of action becomes possible in a particular culture. This could really happen, but the mechanism of such an evolutionary change is not discussed by Swidler.

*Agency.* The assignment to culture of the role of a repertoire from which the elements for various strategies of action are drawn breaks with any form of cultural determinism. In fact, one of the most valuable contributions Swidler has made to our understanding of culture consists in the realization that individuals enjoy far-reaching freedom vis-à-vis culture. Culture is not imposed on us mechanically, we have the power to distance ourselves from it. "We always select among cultural competitors for

our engagement, so that our cultural universe is much wider and more diverse than the culture we make fully our own.” (Swidler 2003: 15) The range of responses of human agents to the elements of culture that are presented to them in everyday life includes rejection, skepticism, suspension of judgment, doubt, criticism, or selective filtering. The conclusion that Swidler draws from this observation is that “we cannot describe culture unless we have a way of dealing both with what people believe and with what they know and disbelieve.” (16) Indeed, as she notes, heresies are integral to the history of the Christian religion as is superstition to the modern enlightened culture. Likewise, any national culture will typically include a great many symbols whose meanings are contested. To some people a monument can symbolize the greatness of their nation, to others it might be a humiliating symbol of oppression of their particular ethnic group, while to others it is just a reminder of the persistence of a narrow-minded nationalistic chauvinism.

Swidler’s observation that actors can distance themselves from their culture attributes an autonomous role to their agency. The power of the individual to reject the elements of culture s/he finds unacceptable, abhorrent, trivial or unnecessary is a part of her agency. It is the same power that enables the individual to choose among various available strategies of action and also, a possibility not directly discussed by Swidler but implied in the metaphor of the tool-kit, to compose one’s own unique strategy of action out of the items contained in the cultural tool-kit. Agency is a central component of Swidler’s non-deterministic account of how culture guides action. However, the internal workings of agency in appropriating or rejecting culture are not analyzed. Also, as pointed out in the above discussion of the place of values in the choice of the strategies of action, what remains underspecified is whether agency is subjected to some cultural constraints. Furthermore, the emphasis on the power of the agent to distance him/herself from culture seems to contrast with Swidler’s frequent references to habits and routines as these represent modes of action in which the capability of the actor of exerting some degree of discretion in their execution is significantly reduced. This last issue requires some further thoughts.

*Agency and routinized action.* Swidler (2000) commends the concept of practices, taken to mean “routine activities (rather than consciously chosen actions) notable for their unconscious, automatic, un-thought character” (83) for presenting an elegant solution to the problem of how culture is linked to action. Since “cultural practices *are* action”, we are relieved of the nightmarish task to figure out how culture is causally connected to action. (85, emphasis in the original) Since the distinction between culture and action is collapsed, there is nothing to explain. This argument indicates something very important about culture, but in its given form it can be criticized on three counts.

Firstly, what is termed a cultural practice, for instance the habit of giving other people gifts on their birthday, is not the same thing as action, but rather a generalized description of a certain class of actions. The individual action of a concrete agent will be much richer in detail than the generalized type and it can in many ways diverge from it. But above all, the concrete action has a concrete agent as its subject and the agent has something in his/her head when executing this particular action. The concept of practice does not tell us what it is.

Secondly, it does not seem accurate to describe practices such as gift-giving as “unconscious, automatic, un-thought” in their character. A gift-giver who does not give much thought to what he is doing might be at times successful in getting the right type of gift to the right type of person (due to good luck or because the recipient is

someone with whom he has a routinized relationship), but more often his choices will result in a disaster. To be sure, there exists a class of routinized bodily movements that are automatized and unconscious, but the concept of social practices is a much broader one and to attribute unconscious and automatic character to practices *tout court* is incorrect.

Thirdly, if practices are to substitute for the culture-action dichotomy, then we are left without one of the most important clues that can help us to understand why existing practices have their particular form and not another. Can a religious service be understood without any reference to what is in people's heads? The rite of communion could be interpreted as a transposition of the practice of communal feasts or common dinners, but in order for the traits specific to the communion that set it apart from secular feasts to be highlighted it is necessary to look at people's ideas. Only then can it be understood why noone complains that the nutritive value of the bread being distributed is rather low and only some individuals have access to the wine (this last feature, of course, varying across denominations). Without meanings and ideas, practices cease to make sense to us and the actual historical course of their development becomes an evolutionary puzzle. When Swidler later in her essay (89) enumerates the many practices that enter into the process of building a house, many of them are, indeed, unconscious and unthought, but many others contain conscious and reflexive elements. The practices that mould and mediate aesthetic experience, the practices linking architects to their clients and the immense set of practices connected with the Capitalist political economy may have vast unconscious and routinized components, but many of them are highly conscious and reflexive. The term "practices" thus remains an equivocal one and should be used with utmost caution.

At the same time, Swidler's claim that routinized, almost unconscious practices are an essential component of culture is of utmost importance. The study by Richard Biernacki that she analyses on the origins of different definitions of labor in Germany and Great Britain in different work output-measuring practices is a convincing illustration of the fact that highly conscious practices can arise from the background of some deeply routinized patterns of action. The agent can very often be highly dependent for his/her action on unconscious or habitualized routines. But it would be incorrect to believe that individuals are marionettes programmed by such routines. It is an empirical question when this de- or reroutinization of a particular field of action becomes an available choice in a society. The permanent possibility of de-routinization concerns also the type of practices that Swidler calls "anchoring practices" that is those that constitute a community and are the foundation for the enactment of other lower-order practices. The anchoring practices will be, almost by definition, resistant to change, but they can be thematized, rethought, and challenged, as it frequently happens in every society.

The concept of practice in Swidler's texts seems to have ambivalent consequences for agency. On the one hand, practices as unconscious and habitualized actions imply a very weak conception of agency. The agent does things that she has learnt in an automatic fashion not entirely unlike Parsons' intensely socialized actor. On the other hand, as we have seen practices are not always unconscious and fully habitualized and they can be questioned, so that the power of agency can be brought to bear on them. I would thus suggest that we can identify here two types of agency: a reflexive one, put at work, for instance, when the agent criticizes some belief or consciously makes a choice between alternatives; and a non-reflexive one that can be spotted in the routinized and habitualized practices which form what can be called the infrastructure of our culture.



*Cultural change and “intermittent” agency.* If two opposed views of agency can be found in Swidler’s texts, both remain rather underspecified and this problem resonates also in her attempts to conceptualize change. As we have seen, the reflexive agent can distance herself critically from some elements of her culture. This seems to imply also her capacity to modify culture. But it is not clear whether the agent’s critical or creative input will be integrated into culture as a socially distributed reality, or whether it will remain just her own private cultural variation with no consequences for the broader culture. The outcomes are probably contingent on circumstances. A couple’s decision to ignore the social convention according to which some types of food are not eaten with bare hands will probably not influence the broader culture. On the other hand, the growing criticism, by many members of the society, of the idea that the King’s authority derives from Divine will, may lead to the change of the dominant political outlook in society and pave the way for a revolution.

Actors, according to Swidler, are never passive. Even in the conditions of overall stability, or the “settled lives” situations, as she calls them, “people do active cultural work to maintain or refine their cultural capacities.” (Swidler 1986: 278) The active cultural role of actors is the more important in the situations of “unsettled lives”, when they invent and test new strategies of action. This can happen in critical moments of an individual biography, for instance after a divorce, or in critical historical conjunctions, as when a revolution sweeps across a country. To take up this latter example, a powerful mobilizing ideology might attempt to redefine all social relations and change completely the cultural identities of the members of society. Such an effort can be quite successful and social agents enjoy, indeed, broad leeway for cultural innovation. Their agency is not any less powerful in the light of the fact that, as Swidler makes clear, even the most radical ideology will “inevitably draw on many tacit assumptions from the existing culture.” (ibid.) For agency is the capability of recombining and possibly also modifying the tools contained in the existing cultural tool-kit.

In her more recent work, Swidler analyzes the dynamism inherent to culture and its susceptibility to change at hands of acting human beings in terms of the properties of culture as a semiotic system that allows for a multiplicity of deviations and variations. She distinguishes three aspects of this “incoherent coherence” of culture: 1. action within culture effectuates small changes on established expectations, thereby modifying the system of meanings as well, 2. semiotic systems have fairly specific local variations, 3. people work with multiple semiotic codes (Swidler 2003: 184). The actor is underdetermined by culture as a semiotic system: s/he can deviate from the expectations inbuilt in culture, attempt to redefine some meanings at a small scale, choose among conflicting rules of different codes. This grants to actors relatively broad agency, albeit one that is not specified as to its internal mechanisms and modes of operation.

The second account of agency to be found in Swidler’s cultural sociology minimizes the reflexivity of agency to the point of non-existence. This version has been characterized at some length in the section above that dealt with routinized practices. The individual enacts unconsciously, but with great practical mastery, habitualized patterns of action. There is no doubt that practices can be shown to follow some kind of a “practical logic” as Bourdieu famously argued, but such a logic is most of the times not accessible to the actor himself on the level of her consciousness. Or, to be more precise, once this logic is consciously thematized by the actor, the practical activity ceases to be a routine. It is also true that practices can

and do evolve over time, with the input of actors taking either the form of conscious manipulation (e.g. inventing a new cooking technique) or of unconscious modifications of the routine. Actors can be said to have reflexive agency only in the former case, which, again, represents a situation of breaking out of the routine.

In sum, Swidler's conception of culture presupposes the existence of two types of agency, one reflexive and the other non-reflexive. Routine practices represent a significant portion of our actions and are an essential element of culture. But culture is routines plus reflexively appropriated and modified contents. As far as agency is concerned, it can be said to operate intermittently. Its reflexive power will be "off" or rather in the "sleep mode" when actors engage in routine activities, but it will come on in the moment when the potential of ordinary routines for organizing our encounters with the world in a satisfactory way hit upon its limits.

### **3. Margaret Archer's analytical dualism: culture and reflexive agency**

The second view of culture and the role of agency in cultural change that I will discuss here is that of the British social theorist Margaret Archer. The contrast with Swidler could hardly be bigger. Archer's concept of culture is decidedly rationalist and she pays much more attention to how action is mediated through the agency of the individual actor who is, for her, in the first place a reflexive actor. The reverse of this approach is the neglect of, and distrust towards, the non-reflexive or less-than-fully reflexive forms of action such as routines or habits.

*Definition of culture.* Unlike most sociologists and anthropologists, Archer has what I call a rationalist view of culture according to which culture are only objects that are intelligible and more specifically those of propositional character. "Culture as a whole is taken to refer to all intelligibilia, that is to any item which has the dispositional capacity of being understood by someone. Within this I then distinguish the Cultural System, which is that sub-set of items to which the law of contradiction can be applied. These are propositions..." (Archer 1996: xviii). The set of propositions is infinite, but only those ideas which are held by someone at a given time are interesting for social analysis, for only these ideas and the contradictions or complementarities between them can have a causal effect in society. That ideas have causal power in the world is a strong statement that has to be convincingly justified. For Archer, ideas are causally efficient because the logical relations of contradiction or complementarity between ideas move actors to act in certain distinct ways, either attempting to overcome the contradiction or to preserve the complementarity. Thus, agency becomes almost immediately central to her project.

*Dualism, as opposed to duality of culture and agency.* Archer accords a prominent place to agency in her conceptions of both culture and structure, but she rejects a voluntarist view of agency as unconstrained by either structure or culture.<sup>42</sup> In her book *Culture and Agency* she proposed a dualist conception of the relationship between culture/structure and agency. The conceptual framework for her analytical dualism is derived from David Lockwood's distinction between system integration and social integration. Lockwood (1964) contrasted the relations obtaining between elements of the social structure (system integration) with the relations between concrete actors or groups of actors (social integration). Following this model, Archer

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<sup>42</sup> Archer treats the structure-agency and culture-agency relationships as analogous, so that what is true of one relationship is also true of the other. To emphasize this, I will sometimes use the term culture/structure.

distinguishes between the cultural system, the sphere of ideas or intelligibilia, organized through the principles of logic and independent of the relationships between individual social actors or groups, and the sphere of socio-cultural interaction, where social action and causal influences between social actors take place. These two spheres are *analytically* separable from each other, that is Archer does not claim that they have separate existence, but they can be analyzed as two distinct levels of social reality and it is possible to assume that there are mutual causal relations between them.<sup>43</sup> \_

As already indicated, the cultural system and sphere of the socio-cultural interaction exert a causal impact one on the other and this mutual influence of completely different orders of reality is possible only through the mediation of the agency of individual actors. The ideas and their logical properties that form the cultural system have causal effects on the sphere of socio-cultural interaction through the agency of social actors who act on these ideas. A perceived contradiction between some core elements of a religious doctrine and a set of beliefs deemed essential by some individuals can result in them leaving the church and setting up a new denomination. Vice versa, the processes in the socio-cultural sphere, such as one social group's rise to power or its emancipation from oppression, can have causal effects on the cultural system. In the course of a revolution, the idea of the divine right of the King can be abandoned by a significant part of the society and a Republican political doctrine can replace it. For such changes to happen, the role of the agency is essential in providing the mediating link between the one and the other sphere. Contradictions in a religious doctrine or political ideology may abound, but if there are no religious or political leaders and other actors who attempt to overcome this contradiction by acting in certain ways, they will remain socially ineffective. Reversing the perspective, the socio-cultural processes, too, are unable to impinge on ideas directly, without the creative input of the individuals who criticize, polemize with, revise etc. the existing cultural contents.

*Criticism of reductionist conceptions of agency.* Archer argues that if the perspective of analytical dualism is abandoned, it ceases to be possible to have an adequate notion of agency in society. There exist, for her, three reductionist accounts of the relationship between culture/structure and agency. These deny the independence and autonomy of the cultural system or socio-cultural interaction or both and are thus incompatible with analytical dualism. The first two collapse the distinction between the cultural system and socio-cultural interaction recognizing only one of them as an autonomous social sphere. In the *downward conflation* cultural system is seen as the only real foundation of social action. Socio-cultural interaction is treated as epiphenomenal, as produced by the operations of an underlying deep structure. Individuals turn into cultural dopes, their agency is denied and replaced by the notion of them functioning as bearers of a cultural structure.

In the *upward conflation*, it is the socio-cultural sphere that becomes dominant while cultural system is reduced to epiphenomenality. In one version of this theory, the dominant social group produces and reproduces its own form of the cultural system, the dominant ideology, which is then inculcated to all members of society. Culture is nothing more than a derivative of socio-cultural processes. Agency is treated selectively. The agency of those who belong to the dominant group is unconstrained by any cultural structure, for, by definition, the dominant group is the

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<sup>43</sup> „...structure and agency are interrelated but not viewed as mutually constitutive since each possesses emergent properties particular to that level.“ (Archer 1995: 133)

producer of the dominant culture. The agency of the dominated groups, on the other hand, is weak, being to a large degree suppressed both by the material and the cultural predominance of the ruling group.

The first two types of conflation are Archer's critical interpretations of such influential thought currents as structuralism and Marxism. She is equally critical of the attempts at theorizing culture/structure and agency as inextricably intertwined, a mode of thinking about this problem which forms the gist of Giddens' theory of the duality of structure. The main flaw of the *central conflation* is that culture and social interaction are not treated as two analytically separate levels, but as one precluding thus the possibility of causal interaction between them. While seemingly avoiding the pitfalls of both the downward and the upward conflation, central conflationism in fact suffers from the shortcomings of the two simultaneously. Giddens errs in granting to agency both too much and too little autonomy. Action in his theoretical model is governed by rules, but these allow for endless transformations and creativity. At the same time, agents act recursively and even their most insignificant practices evoke the underlying structure. The Giddensian agent is thus characterized as at the same time hyperactive and overdetermined by the structure (Archer 1996: 86).

Archer attempts to gain leverage on agency by carefully maintaining the analytical distinction between culture/structure and socio-cultural interaction. What is the location of agency in this two-level model? The actor is a member of the sphere of socio-cultural interaction and it is also here that all action takes place. So, agency is primarily situated, if one may say so, in the sphere of socio-cultural interaction. Yet, it has direct access (see below) to the ideas of the cultural system and is thus the only link between the two levels.

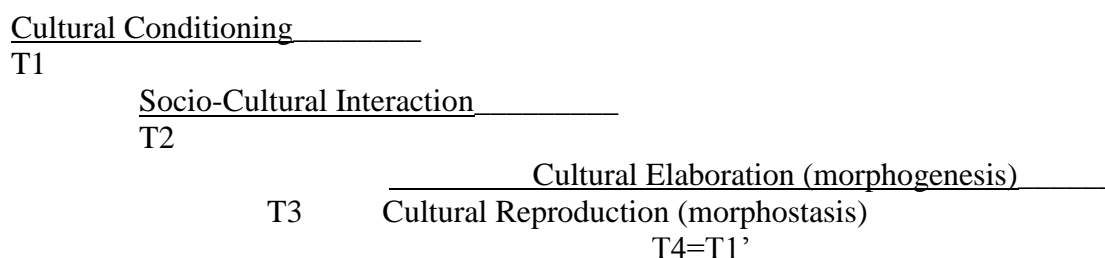
In Archer's theory agency is integrated into a sociological account of human action not just as an unnecessary appendix to an otherwise saturated theoretical picture, but as a vital mediating link between culture and action. The freedom of agency is not denied, to the contrary, the free activity of the agent is the only source of all dynamism in the social life. But this freedom is not unconstrained, it operates in a space in which chances and possibilities are defined and limited by cultural/structural conditions.

*Archer's theory of cultural change.* Another important benefit of the analytical separation of the cultural system from the domain of socio-cultural interaction is that Archer can propose a theory of cultural dynamism and change. One of the critical points she makes against Giddens' duality theory is that it is unable to explain how cultural change is possible, for the two aspects of the dual structure, structure and agency, are always thematized in the same time span and cannot be otherwise. Paradoxical as it might be for Giddens, who has championed a far-reaching inclusion of both spatial and temporal topics into the scope of social theorizing, the duality theory is unable to account for how the mutual effects between culture/structure and agency develop in time (91).

Archer's theory contains an essentially temporal element that comes to the surface in the complementary concepts of morphogenesis and morphostasis. As a straightforward consequence of the analytical dualism, culture/structure and socio-cultural interaction can be analyzed not only in synchronicity, as is the case of the duality of structure, but also diachronically as a sequence of successive causal effects the one element has on the other and vice versa. The formula employed by Archer to describe the basic cycle of cultural change is as follows: Cultural

Conditioning – Socio-cultural Interaction – Cultural Elaboration (xxiv) (see Schema 1). The agent(s) act in concrete situations constrained by concrete cultural conditions, which means that certain particular configurations of ideas are available to them at the moment of action from which they can choose and which they can also subsequently modify. A Hellenic slave could embrace Stoicism or Christianity but not historical materialism. If this slave happens to be Epictetus, then he also made a significant contribution to cultural elaboration by developing the body of the Stoic philosophy. In other words, cultural elaboration is the modification of the extant culture by virtue of an actor's using his/her agency in a given cultural context to produce an innovation. Yet, agency is equally indispensable for the reproduction of the cultural system, for any structure can exist only as permanently enacted by actors. Clearly, the cycles of cultural reproduction and elaboration follow incessantly one upon another and simultaneously for all actors in a society, so that it is a matter of supreme analytical arbitrariness to point out one particular sequence in the infinite ocean of socio-cultural action.

#### 4. Schema 1: Archer's basic cycle of cultural change



Source: Archer (1995: 157), modified

*Cultural change and the power of human reflexivity.* Archer makes a strong case against all kinds of sociological reductionism that see a sufficient explanation of action to reside in identifying the corresponding sets of concrete causal factors, structural or cultural. But what is, precisely, human agency? An answer to this question, however tentative, will shed some light on why there is any agency in the social world at all and why social action is productive, not just reproductive, creative, not just repetitive.

The core of the answer to this question is, for Archer, reflexivity. The all-important fact that cultural and structural factors condition, but do not determine human action is due to the “quintessential reflective ability of human beings to fight back against their conditioning (...), giving them the capacity to respond with originality to their present context.” (Archer 1996: xxvi) Now, this answer provokes further impertinent questions, such as, where does our power of reflexivity come from? Is reflexivity an elementary human capacity or can it be decomposed into more primitive parts? How can we rest assured that what our reflectivity presents us with has not been adulterated by oblique influences? Upon due reflection, most people would probably assent that humans are, indeed, reflective beings. Fundamental questions about the nature, sources, limits and architecture of reflexivity go beyond the scope of this paper. Yet, the last question bears directly on the issue of whether an independent human agency vis-à-vis social structures and culture is possible. Is reflexivity immune to the structuring effects of the deep structures of human mind and to ideological manipulation? If not, downward or upward conflationists have won, after all. The first confrontation, the one with the deep structures of human mind, seems to be utterly desperate. But, in fact, it is not, at least as long as the structuralist hypothesis that there really is such a thing as a deep structure of the mind remains

unproved. The case of the ideological distortion of human reflexivity is thus the more interesting one. To see how Archer resolves this objection, it might seem necessary to have a look at her treatment of the internal life of the social subject. Following Donald Davidson and William Alston she argues that every individual has a first-person privileged knowledge about his/her own mental states. (Archer 2003: 48) Is this a sufficiently strong argument against the suspicion that our thinking is dominated by ideologies? I am not fully convinced for I can have a self-warranted belief that I am free in voting for a particular political party, and there might be no doubt that I really have this belief, but my decision to vote could still be construed as influenced by an ideology. It seems to me that Archer's general appeal to human freedom is a more convincing argument against the ideology thesis than this particular one. In any case, a detailed treatment of this issue has to be left for another occasion.

In Archer's theory, the capacity for reflexivity is activated in and through the internal conversation of the subject (Archer 2003, 2007). Of course, not all internal conversations are reflexive, but many are and they fulfill multiple tasks.<sup>44</sup> Among many other things, one can in an internal conversation plan for vacations, imagine oneself getting promoted or demoted in work, decide to join the *Légion étrangère*, relive important scenes from private life, rehearse for a job interview or have an imaginary conversation with Max Weber. Two things are worth emphasizing. Firstly, the centerpiece of Archer's conception of reflexivity is that in internal conversations we ponder over the external structural and cultural conditions of our action(s) and develop our responses which are never or only rarely a mere mechanical reaction to them. This idea represents a deeper version of the abovementioned scheme of cultural/structural elaboration. The acting subject not only engages in action, but action is preceded by and embedded into a complicated web of internal conversations on all kinds of relevant topics. At least some of the cultural and structural givens impinging on the situation of action can be reflectively evaluated and integrated into the backdrop against which the plan for action is designed. The agent will not have full sociological knowledge of the structural and cultural constraints limiting his/her action (and, indeed, which sociologist has such knowledge?), but frequently will be aware at least of the most salient ones. To use one of Archer's examples, a person buying a house will be aware that the mortgage she is about to take cannot exceed her ability to pay it back arriving thus at a clear awareness of a structural constraint on her action. Similarly, a member of an ethnic minority may refrain from applying for a prestigious job reflecting thus the level of cultural prejudice prevailing in his society.<sup>45</sup>

Secondly, with the incorporation of reflexivity, Archer's perspective on agency in the social world grew much richer. For the scope of reflexivity, exercised in internal conversation, is not limited just to weighing the relevance of structural or cultural constraints on particular courses of action. Reflexivity is also what shapes the identity of the individual as a person and what actualizes the broad horizon of her concerns and life goals. The reflexive internal conversation has the double task of prioritizing our concerns and making decisions about their realization. (Archer 2007: 87) This is of utmost importance for our identity, for identity is, to Archer, the unique ordering of

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<sup>44</sup> Archer (2007: 73) distinguishes ten tasks of reflexivity achieved through internal conversation.

<sup>45</sup> This latter example might seem to be that of cultural inertia: a member of a minority group internalizes and hereby reinforces an existing cultural prejudice. However, how much of reflexivity was really involved in his decision to shun all but the least prestigious and worst-paid jobs is an empirical question. Generally speaking, reflexivity is instrumental both in reproducing existing structures and in transforming them, both in morphostasis and morphogenesis.

concerns and commitments that an individual has. The inspection, selection and prioritization of concerns is, in fact, the first term of a sequence through which reflexivity guides human action in the pursuit of the good life: Concerns – Projects – Practices. The desire to realize their most important concerns leads people to develop concrete projects and remain loyal to them over time. The agent will assume social roles he thinks best conducive to him realizing his central personal concerns. Ultimately, this striving will result in the agent adopting concrete social practices that will be both sustainable and satisfying for him in an effort to achieve a full alignment of his personal identity and his social identity (88).

Individual decisions and other instantiations of agency will now be integrated into this broader system of personal life goals and each potential act will be evaluated against this more comprehensive backdrop. This certainly does not mean that all actions will be consistent with a person's life concerns, for there is always some leeway for failures, errors and inconsistencies. But some degree of consistency with the principal life commitments of a person can be, in most cases, reasonably expected to exist. Importantly, this shift to a higher-level conceptualization of action does not preclude reflexive confrontation of structural and cultural constraints, but rather to the contrary: these will be now reflexively monitored not only in relation to immediate aims, but to the broader life aspirations as well. It can be surmised that the action arising from the reflection situated in the broader horizon of personal concerns will have similar reproductive or innovative effects on culture/structure as action inserted in the cultural/structural elaboration scheme discussed above.

The transposition of action onto the plane of human concerns and commitments raises many questions that cannot be discussed here. Are the life concerns and commitments fully the agent's own or are they culturally constituted? Is the view of individual actors as building reflexively their own personal and social identities an adequate one or is Swidler's notion that identity originates in a combination of available cultural competences analytically more useful? In any case, the integration of Archer's conception of the reflexive pursuit of the good life into a cultural sociological perspective would require further analytical work. For the purposes of this paper, it is sufficient to point to the usefulness of the notion that structural and cultural constraints are reflexively evaluated. Archer's original schema of cultural elaboration can be accordingly modified: Cultural conditioning – Reflexive agency in socio-cultural interaction – Cultural elaboration.

## **5. Cultural change and agency: bringing reflexivity in**

The discussion of the two recent interesting proposals for conceptualizing culture in relation to agency has brought mixed, or even contradictory results. On the one hand, Archer's concept of culture displays an excessive rationalism, culture being defined as a set of propositions that are organized among themselves following purely logical principles, and her concept of agency, elaborated in great detail, centers around reflexivity of individual agents. Actions are constrained, but not determined by culture, firstly, because culture is not a fully consistent system of propositions and there are thus all kinds of conflicting ideas in it. Second and more importantly, all cultural (and structural) influence on action is mediated by human reflexivity, which is essentially free. The paradigm for this type of thinking about culture could perhaps be found in the doctrinal conflicts within major religions or in the development of science. It is more difficult to say of what use this concept of culture can be in explaining such phenomena as the Balinese cockfight or the irresponsible lending practices of major banks prior to the latest global financial crisis.

The view of culture forwarded by Ann Swidler, on the other hand, seems to be modeled on the prototypical character of the “ordinary Americans” whom she studied in her books. Culture is an “incoherently coherent” system of meanings or rather a plurality of such systems that constrains action, but is far from determining it. Logical consistency, however important it may sometimes be, is not an essential virtue of the cultural system(s). This is so because the contents of culture are not just propositional, but they include symbols, rituals, and myths as well as practices, routines, and habits. This is a much richer and more realistic model of culture than Archer’s. However, the wealth of culture goes hand in hand with the poverty of agency. There are times when agency seems to be almost absolutely free to accept or reject any concrete element of culture. It is not clear whether and how action is constrained by the particular contents of a concrete culture. It is equally unspecified what agency is and how it operates. And there are moments also when agency seems to be non-existent for the actors are described as blindly following the routines that make up a good portion of their culture. This type of agency could be called intermittent, for it goes from the “sleep” mode to the on mode and back again and again in response to the constantly changing situation of action. There is relatively little to be found in Swidler’s account that indicates what are the conditions when actors become active and when they go to the sleep mode.

The two approaches also differ greatly in the way they conceive of cultural change. Archer has an explicit model of morphogenesis/morphostasis which describes how cultural (structural) conditions are constantly actualized by reflexive agents in their action whose outcomes are immediately reintegrated into culture or structure. Culture and structure exist only as constantly actualized and constructed by acting subjects so that the difference between cultural stability and change ceases to be important. This model of cultural reproduction is, to me, a highly useful one, but it suffers from the one-sided rationalist emphasis on the propositional nature of culture and incessant operation of human reflexivity.

In contrast, Swidler’s account of cultural change is not written from the perspective of the individual agency. Since agents have a relatively loose relationship to their culture, their infidelities are both frequent and inconsequential for them. They can choose between conflicting cultural scripts, reject a cultural element or modify it in criticizing it. In the less settled situations, in particular, individuals or social groups attempt to recombine the existing cultural capacities to produce new strategies of action, hitherto unavailable. There is thus cultural change on two levels: (1.) The change of the strategies of action that actors effect to some degree consciously and intentionally (think of the revolutionary transformation of a society dominated by a mobilizing ideology), but only if the existing cultural capacities (or the “tools” in the cultural “tool-kit”) allow for it. And (2.) the change of the cultural capacities or tools themselves which is usually, though not necessarily always, effected through very small, piecemeal modifications produced by agents without these knowing and intending it. Whereas the first type of cultural change seems to be compatible with Archer’s model, the second type clearly isn’t for neither are logical propositions its object nor is reflexive agent its subject. Yet, what kind of things are these cultural capacities that change through the nonreflexive mediation of the agent? They are the routinized practices, skills and habits that Swidler sees as bridging the gap between culture conceived of in mental terms and action. *Contra* Archer, it can be maintained that while all elements of culture can change only in human action, some change with no participation of human reflexivity. I can find out that there was a definite change in the way I go about my daily activities, such as preparing a coffee or greeting my



neighbors, but as these changes were underway I didn't have to consult the ultimate concerns and priorities of my life.

Both conceptions of cultural change tap an essential aspect of culture and agency, but both also miss other equally essential aspects. So, it seems that an important task for a sociological theory of culture is to figure out how to synthesize these two divergent views of cultural change. We have a rationalist view of culture and a reflexive conception of agency on the one side and their non-rationalist and non-reflexive counterparts on the other. They could seem contradictory and therefore incompatible, but this would be the mistake of the rationalist. In fact, the two views contain all the elements that are needed for a synthesis. Archer supplies a schema of cultural change that, if rid of its rationalist bias, can adequately describe the constant mediation between culture and action. Archer's theory also contains a hint about how to integrate a plurality of cycles of mediation, for firstly cultural mediation cycles form a continuous and overlapping sequence, and secondly they are seamlessly integrated with analogous structural mediation cycles. Swidler, in her turn, provides the framework for a concept of action that can accommodate both the rational and reflexive elements of culture and agency and their opposites. The resulting model can be outlined along these lines:

Culture is composed both of propositional elements (ideas) and non-propositional ones – routines, habits, skills, symbols, rituals, narratives and other. The two types of cultural elements do not lead a completely separate existence in cultural life, for ideas are frequently integrated and embodied in non-propositional forms of culture. There are two principal forms of mediation between culture and agency: (1) the reflexive cycle of mediation as analyzed by Archer: Cultural conditioning – Reflexive agency in socio-cultural interaction – Cultural elaboration; (2) the non-reflexive cycle of mediation that can be identified in Swidler's work: Cultural conditioning – Non-reflexive agency in socio-cultural interaction – Cultural elaboration. These two cycles are incessantly repeated, intermingled and recursively connected in the continuous social action of an individual agent or a group.

Several points can be made in connection to this revised model:

1. Cultural conditioning now includes also non-propositional elements of culture (national myths or religious rituals constrain action) and the reflexive agent will include these in her/his pondering of the alternatives of action. Also, action can now result in the modification of the non-propositional culture (a central cultural narrative or ritual undergo changes under criticism, a work routine is rationalized). This corrects the intellectualist bias of Archer's model of culture and action.
2. The non-reflexive agency is that by which an agent contributes to the piecemeal change of routine practices, available skills and other cultural competences from the cultural tool-kit. The skill of using a hammer or the art of making an excellent coffee, for instance, are modified, refined, and improved (but also deteriorated) in a long succession of concrete executions by many practitioners. Sometimes these executions will be highly conscious and reflexive, as when a new type of a drink is being tried and tested by coffee specialists. But most of the times these practices will be less than fully conscious and reflexive, including the transmission of practices and skills from one person to another (learning how to make a coffee from one's parents or how to greet partners at a business meeting from more senior colleagues). In such cases, the mediating role of agency is still indispensable, for coffee is not made and greetings are not uttered without people, but this is a non-reflexive type of agency.

3. Non-reflexive agency seems incapable of having an effect on the propositional contents of culture. There are two very specific cases when the outcomes of non-reflexive agency are translated into propositions by reflexive agency: (1) an emerging or recently discovered practice is studied and described by an observer and its description becomes part of the propositional culture; (2) a routine practice accidentally produces a propositional element that is taken notice of by a reflexive agent, as when pieces of shredded paper when put together create an intelligible sentence.
4. It is difficult to characterize this expanded model of culture and agency with one single description. The agency it presupposes is intermittently reflexive, the type of cultural change it produces will be continuous or piecemeal on the side of the routinized action, but can be quite abrupt on the reflexive side.

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## Exploratory Study on Factors Influencing Job Satisfaction of Aged Worker with Disability

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### ABSTRACT

Aged workers with disability experience being suffered from old age and disability, making them classified into a weaker with double weaknesses. In addition, getting a job for them is significant not only for economical purpose but also for a way for social participation, and the importance of their job satisfaction after getting a job should be noticed in terms of raising their life satisfaction. Hence this study plans to investigate factors influencing job satisfaction of aged workers with disability, and suggest policy implication for them.

Research data is the third Panel Survey of Employment for Disabled done by Korea Employment Agency for the Disabled, and the subjects are 376 paid disabled workers more than 55 year aged.

Research method is multiple regression analysis done after classifying the factors into individual factor, compensation factor, work environment factor, and job factor. According to the result of analysis, it is revealed that physical environment of work environment factor (safety level of working environment, number of disabled facilities), compensation factor (wage), and job factor (job suitability comparing with technological level) influence job satisfaction of aged workers with disability. The suggestions of this study are the followings.

First, investigation should be made into the actual condition of safety level of working environment and desire of aged workers with disability to prevent industrial accident due to their double weaknesses in advance, and plans for physical environment improvement of workplace and support for working safety should be prepared. In addition, institutional system for assistive technology development and supply for disabled facilities setting and technical level suitability improvement should be expanded.

Second, practical efforts for development of various suitable types of occupation should be made to enhance wage level of aged worker with disability. In addition, seeking support plan for aged worker with disability with unstable old-age income

because of immaturity of Korea public pension system and reduction of private support is necessary.

Finally, most policies about aged people employment of Korea are centered on healthy aged people's employment vitalization, however, in different terms of that, understanding about characteristic of aged workers experiencing both old age and disability at the same time and perception of importance of political and practical intervention for enhancing job satisfaction.

Keywords: aged worker with disability, job satisfaction, employment support services

## Study on the Factors Influencing Preparation of Old Age of Disabled Person in Babyboomers

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### ABSTRACT

As the average life of disabled people increases, the quality of disabled old people and the social security system draw attention more and more. However the number of study on the actual condition of disabled person in babyboomers near retirement and the preparation of old age of them is almost zero. So the purpose of this study is to seek political measures about the preparation of old age of disabled people by investigating factors influencing preparation of old age of disabled person in babyboomers.

Research data is the third Panel Survey of Employment for Disabled done by Korea Employment Agency for the Disabled, and the subjects are 1,359 disabled people born from 1955 to 1963. Study method is the analysis of factors influencing preparation of old age through binary logistic regression analysis by using SPSS 18.0 after dividing obstacle factors of disabled person into population social factors and economical factors.

The result of the analysis is that the factors influencing preparation of old age of disabled person in babyboomers are gender (male) and an academic career (ineducation, elementary school graduate, high school graduate) as population social factors, and job situation (person with job), personal income, family income, position of work place (wage earner, self-employed) as economical factors.

Hence the following political concerns about preparation of old age of disabled person in babyboomers are necessary. First, program development for preparation of old age and political support for female disabled person with more fragile preparation of old age than male disabled person are necessary. Second, measures for preparation of old age of unpaid family worker, unemployed person, not economically active disabled person, who are in economically weak position, are necessary. Finally continuous study and political support for life of old age of disabled person is necessary.

Keywords: disabled person in babyboomers, preparation of old age

## The impact of cultural and family beliefs on coping with children with illnesses

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### Abstract

Despite the growing need for ways of dealing with psychopathology that are more culturally and socially relevant/sensitive, literature that focuses on such methods of therapies and treatment outcomes in the Asian settings is yet to be found. While research shows cross-cultural differences in family perceptions, self-beliefs and value priorities, mental health models in Asia still tend to be based on those established in the West. Culture-bound syndromes are only beginning to be studied within the indigenous framework and have not transpired into applied psychopathological formulations. The literature points to cultural factors and intergenerational gaps within rapidly growing societies, suggesting serious considerations of sociocultural factors in formulating psychopathological problems within the child and adolescent mental health setting. The unique ways in which the culture and the broader societal atmosphere affect specific relationship dynamics within the triad- client, family and the therapist- are often overlooked. Thus, the Culture - Family Triad Model of Psychotherapy that takes into account of this issue will be discussed. Case study examples within an Asian context will be presented to demonstrate the model's applicability.

Keywords: family, cultural influences, psychopathology, Asian mental health

**Format of presentation: ORAL**

## Society III

08:45-10:15, December 16, 2012(Room 2)

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*Khon Kaen University*

**250: Rethinking Authenticity: the Politics of Making and Unmaking Boundaries  
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*I Wayan Suyadnya*

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**287: Nepal in between Contentious Politics**

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**363: Thai Wisdom in Rural Community, Southern Thailand**

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*College of Nursing Songkhla*

*Kansiri Janjaroen*

*College of Nursing Songkhla*

## Gender, Thai Sexual Culture and the Sexuality Classroom

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### ABSTRACT

Despite Thailand's reputation of sex tour destination, Thai people in general are modest to talk about sex. In addition, according to Thai value, women have to be quiet about sex in order to be considered as a good Thai woman. This leads to difficulty in the learning and discussion in the Sexuality classroom. The education about sexuality was introduced in Thai ancient society in 1345 when the first Thai literature Traiphumphraruang was composed in Sukhothai period. Another literature about sexuality was composed later in the mid 15th century in Ayudhdhaya period, erotically. It was the beginning of erotic tradition in Thai literary composition. However, the pedagogy of sexuality has never been done formally and academically in Thai society until recently. This study illustrated the phenomenon of the Gender and Sexuality classroom in the MA in Thai Language and Literature Course at the Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand. This classroom consisted of fifteen students. There were three male and twelve female students. Two out of three male students were gay and very active in the discussion about sexuality. Only one out of twelve women in the classroom was active for classroom discussion. The rest of them seemed to be uncomfortable to discuss the issues.

Keywords: Thai Culture, Gender and Sexuality, Sexuality Classroom

### 1. INTRODUCTION

From late nineteenth century to the first half of the twentieth, researchers and theorists in medical, biological and psychological fields dominated a lot of concerns on distinguishing 'natural' or 'biological' explanations for human behavior (Dianne Richardson,2008). At that time, they believed that sex differences produced different psychological and behavioral disposition in males and females .It was 'sex', not 'gender' they spoke of, and it was different from the contemporary debate in this present day that often referred to 'gender'(Ibid.).

An emergence of the new understanding of sex and its relationship to gender was more recently. While 'sex' was being explained as 'biological' difference of male and female, 'gender' was defined as a socially constructed product of patriarchal hierarchies (Jackson,1999). The main focus of work on gender carried out during 1970s and 1980s was on exploring the production of masculinity and femininity. Many feminists argued that gender was culturally determined and that we became differently gendered through socialization into gender roles or sex roles ((Dianne Richardson, 2008).

Like many societies, Thai society prescribed the gender roles for men and women in the society. Thai men were prescribed a superior and Thai women were prescribed to be less superior and often inferior role. These made Thai society became a so called 'male dominated' society.



In such a male dominated society as Thai, women's roles and behaviors were restricted by many constraints and discriminations. There were things like good women's codes and conducts or women stereotypes for women to follow in order to be considered as 'good' women in Thai society. The illustration of this could be seen in Harrison (1999) where she argued that the 'good' women in Thai society were those who reserve sexual contact for their husbands for the purpose of becoming mothers and 'bad' women were those who were sexually adventurous, promiscuous and unrestrained. Harrison (2000) furthered her discussion on Thai women and concluded that a good woman in Thai society was supposed to be monogamous and sexually well-behaved.

While women were expected to be sexually well behaved, men in Thailand seemed to have an endless freedom about sex. Talking about sex issues and treated women as a sex object was common practices in among Thai men. To be considered as a 'real' man, Thai men were expected to have a lot of sexual experiences.

The different expectations as well as constraints and discrimination between male and female in Thai society for grounded many traditions and cultures in Thai society, including sexual culture.

### **1.1 Thai Sexual Culture and Education**

Sexual culture, like any other culture, was various depending on circumstances and factors. In the west, sex was found to be linked to notions of danger and dark power as confirmed by the following quote:

The topic of sex is taboo in many societies, especially in those of the West, where it is linked to notions of danger, destructiveness and the darker powers that be. Here sex is a great sin, associated with the negative values of craving, passion and lust, and precipitates the downfall of the individual, and hence society at large (Sutham, 2001:120)

In the East, the situation was not much different. Despite being the home of the oldest sex manual, in ancient China where the Kong Jue was practiced, followers were taught to avoid certain practices considered to be "devoid of good manners" (Simons, 2003:1). The four practices that could be considered as bad manners included talking about sex, listening to stories about sex, watching or looking at pornography and involving oneself in any way with the obscene (Suthep, 1993:1). The same phenomenon applied to Indian society: while being internationally renowned as home to the sex manual Kama Sutra, India was also known as a conservative society (Orathai, 2006).

Inevitably, Thailand was another place of contradictory attitudes with regard to sex. Contrary to Thailand's reputation in the western world as being a destination for 'sex' tourists, sexual issues were hardly ever openly discussed in Thailand, especially among women. This view of sexuality, as from this public discourse, was dubbed by Sutham Thammamongwit (2001) as 'a culture of silence'. This culture of silence led to a silence in the classroom about gender and sexuality.

The education about sexuality was introduced to Thai ancient society in 1345 when the first Thai literature Traiphumphruang was composed in Sukhothai period. The form of writing was formal and serious as it was written in didactic literature. The later literature about sexuality was composed later in the mid 15th century in

Ayuddhaya period, erotically. It was the beginning of erotic tradition in Thai literary composition. However, the learning of sexuality has never been done formally and academically in Thai society until recently. As mentioned earlier, according to Thai value, women had to be quiet about sex in order to be considered as a good Thai woman. This led to difficulty in the discussion in the Gender and Sexuality classroom.

## 1.2 The Gender and Sexuality Classroom

Gender and Sexuality in Thai Literature was an elective subject in the MA in Thai Language and Literature at the Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand. This subject composed of forty five credits. The lesson was on Saturday from 9.00-12.00 am. The content of the subject covered background of gender studies, feminist movement in the west and the phenomenon in Thai society, gender roles, bias and discrimination; and patriarchal influence on Thai literature focusing on erotic literature.

The literature being discussed in the lesson covered the wide period of time span, starting from the famous work of classical Thai literature called *Lilit Pralor*<sup>46</sup> in Ayuddhaya period up to the contemporary literature written by a woman writer in 1997 like Sujinda Khantayalongkot's works. These literature were composed in various themes but contained erotic scenes in the stories. For instance, in *Lilit Pralor*, the story was about two princesses who heard about the beauty of the young but married prince and fall in love with him without seeing him. They then tried to make him aware of them and made him to come to meet them by means of magic. When the prince heard about the beauty of the two princesses, he fell madly in love with them. He asked for permission from his mother and his wife to go to see them. Neither the wife nor the mother wanted him to go because these princesses were the daughters of an enemy king. However, nobody could prevent the young prince and he traveled a long way to meet the two princesses. When they met, there was a very detailed description of their love-making, which constituted the erotic part of the story. At the end, the prince and princesses were all killed together on the orders of the princesses' grandmother and the two warring kingdoms finally became friends.

The following quote is an example of love-making scene, which is the erotic part of the story.

The prince and the two princesses embrace each other and lean down. They feed each other with their lips. It tastes like juice from heaven. Their arms are around each other, flesh is next to flesh. The young and bright faces are next to each other. Breasts next to breasts, stomach next to stomach. The lovers are enjoying the new taste of lust, losing themselves in their cravings. The flower is opening its petal. The carpenter bee is nuzzling in the middle. They make noises together. (The prince said) "Bathing in the pond in heaven is not as good as in your pond. Your flesh pond is so smooth. It is very enjoyable in your pond. The fish is happy and jumps to touch the lotus. The bank of the precious pond is amazing. It is nice and clean. Even the hill of heaven cannot compare with it. I am so lucky to have an opportunity to see your golden breasts" (*Lilit Pralor*, 1983:131)<sup>47</sup>.

Erotic scenes like the above example was found in most of the great Thai classical literature written by men. Erotic Thai literature written by women writers

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<sup>46</sup> A poem about Prince Lor) assumed to be written in the mid 15<sup>th</sup> century.

<sup>47</sup> Cited from Orathai Panya. (2006). *Gender and Sexualities in Thai Erotic Literature by Women Writers*. University of London Ph.D.Thesis.

was different from that written by men. They only contained some sexual themes but the writer did not give the description in as much detail as the literature written by male writers (Orathai,2006). The example of early erotic scene in Thai literature composed by woman writer was *Mom Pet sawan* ('Lady Heavenly Duck') by Khun Suwan, a poet in the reign of King Rama IV (1851-68). The story was about a court ladies, lesbian couple who were found kissing each other under the blanket while the princess was asleep. The love-making scene between this couple was described as follows:

The couple were messing around with each other by the princess' feet. They thought nobody could see them. Therefore, they behaved according to their hearts. It was dark because there was no light. The couple were whispering in the dark by the princess's feet. They were busily engaged in outrageous intimacy under the blanket (Khun Suwan, 1968:78-79).

These erotic scenes were brought into discussion in the classroom and most female students felt embarrassed to talk about the detailed love making description composed by male authors. Although they aware of the inequality degree of freedom male and female writers possessed, they felt more comfortable to refer to the modest scene written by the woman writer as if they accepted that women should write about sex modestly.

There were fifteen students in the Gender and Sexuality in Thai Literature classroom, consisting three men and twelve women. Two out of three men were gay men and found to be very active in the discussion about sexuality. These gay men were 'Katoey' or 'Lady Boys' which being referred to as 'the third sex' in Thai society, and seemed to have privilege to talk about sex. In addition, they could be sexually misbehaved without being condemned or seriously criticized by Thai society. This could be because the gender roles were prescribed to 'male' and 'female' only. There was actually no 'codes and conducts' for 'the third sex'. This allowed more opportunity for the gay students to openly discuss about sex without feeling embarrassed.

Only one out of twelve women in the classroom was active for classroom discussion. This student was married and in her late 40s. The rest of them were uncomfortable to discuss the issues. The reason for single female students to be silent in class could be because they were influenced by Thai sexual culture that women should not talk about sex. A 'good' single Thai woman was expected to be innocent or inexperience about sex. Women should keep their virginity for their husband only. However, in modern Thai society, many single women were not innocent about sex anymore. A vast number of university students lived together as a couple without marriage. This could make the single female students feel awkward to discuss about sex as they wished to be perceived as a 'good' Thai women who were innocent about sex, by their classmates and a teacher whereas in reality they were not that innocent.

The interesting phenomenon was that of the 'straight man' student. While the 'prescribed role' in Thai society allowed more space and freedom for men to do almost anything they like on the topic of sex, the male student in this class did not behave according to his prescribed role. He was rather passive and shy to answer when he was asked any question. This could be because he was the only man in the class. It could be argued that although men in Thai society possessed more freedom to talk about sex in public space, they had to do it among their close friends or somebody they felt comfortable to talk to, maybe a so called 'semi-public space'.

## 2. CONCLUSION

Sex issue was taboo in many societies. Talking about sex was considered to be impolite and improper for women to do in Thai society. To be considered as a 'good' woman, Thai women had to be innocent about sex. This resulted in 'a culture of silence' in Thai sexual culture. This restriction did not apply to Thai men who seemed to have more freedom about sex and expected to be 'experienced' about sex. The culture of silence in Thai sexual culture led to a silent in the Gender and Sexuality in Thai Literature classroom as female students had to keep quiet about sex in order to gain respect from their classmates. There was only one straight man in the class and chose to keep silent about sex like female students. 'Lady boy' students were the only group of students who enjoyed talking about sex and were active to participate in all kinds of discussion in the classroom. It could be argued that Thai sexual culture had an impact on the teaching and learning of sexuality. .

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**Rethinking Authenticity:  
the Politics of Making and Unmaking Boundaries in Producing  
Localities**

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**ABSTRACT**

By applying the combination of ethnography and discourse approaches in Tenganan Peglingsingan, Bali, Indonesia, this paper aims to examine how the discourse of authenticity and localities in tourism are locally produced. Focusing on the image development done through mass media such as photographs, magazines, newspapers and videos in which Tenganan people learn how they have to be authentic, unique, ancient, and traditional, this paper traces narrative ideas of Tenganan people in understanding identity and determining their cultural boundaries in globalized world. Through a series of experiences and everyday practices, this paper shows how they become individuals who build their consciousness through global discourse to represent their culture, self and live as authentically local. However, as a matter of fact, when they interact with tourists or outsiders, they apply the politics of “draw and pay out” (*politik tarik ulur*) that is their creativity in developing their image that they are part of unchanged society (static). The authentic image is economically important to make their village as international tourism destination. Hence, this essay focuses on the effort to review the relationship between authenticity and localities in tourism industry formed through the politics of making and unmaking of cultural boundaries.

Keywords: authenticity, boundaries, localities, politics, image, and identity

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## Nepal In Between Contentious Politics

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### **ABSTRACT**

This paper examines the People's Wars in Nepal, and the Nepalese political crisis during the insurgency, and tries to analyze the situation from post-1990 to the current political scenario. This study visualizes the Maoist armed conflict in Nepal and finds that the causes and consequences were due largely to failures of governance, development failure, and causes related to constitutional issues. It identifies these as the major causes of the Maoist insurgency. Beside this, it highlights the trigger and catalysts of the Maoist insurgency which also gave a political framework to ethnic and indigenous group demands, and examines how this became a problem for Nepal's contemporary political discourse.

Further, through the holistic observation of Nepal's political development and social movements, this analysis finds that Nepal lost its traditional and cultural identities. On the other hand, political parties such as the Maoists, regional parties, and NGOs vowed that the ethnic and caste based state was undemocratic, and was responsible for conflicts within communities.

Furthermore, this study finds that contentious nature of Nepal's political parties become a hindrance to the further development of political stability in Nepal. Since the beginning of the Nepalese democratization process, the political parties have failed to promote democracy. Meanwhile, after the changes in the Nepali political regime, this study finds that Nepali politics have largely turned into identities politics to fulfill short-term goals rather than find long-lasting solution for a Nepal peace.

Finally, this research finds that from 2006 to the present, Nepali politics and political parties are caught in contentious politics. These not only affect national security and the peace process, but also divide the nation and bring new conflict into the war torn country. Moreover, the contentious behavior of Nepali political and social organizations can hinder the further building of Nepal.

**Keywords:** Maoist movement, democratization process, contentious politics, identity politics, conflict

### **1. INTRODUCTION**

From 1991, Nepal saw the beginning of its multiparty system and parliamentary democracy under a constitutional monarchy. But in the Nepali democratization process, there were several ups and down which were never supportive for the development of real democracy. The Nepali political discourse saw the appearance of many political parties and their associate organizations, but in real practice, the real development of a sense of democracy was limited. In this paper, I would like to discuss the Nepali political parties' nature that developed from 1996 to the present. Further, when the Monarchy was abolished, Maoist and regional small parties made their way to the government. When the Maoist emerged from the underground and became openly involved in politics, the scene change, and began to openly highlight

identity politics.

In the Nepal democratization process, the Maoist movement and others social movements show the many contentious activities and programs that weaken the democracy and also affects national Sovereignty. Therefore, this paper tries to dig into the Nepali political parties' contentious political nature that not only disturbs the social harmony, but also brings about ethnic and religious conflict in the Himalayan nation which had just over come a decade of armed Maoist conflict.

### **1.1. The Maoist Movement and Its Relation with Indigenous Ethnic People**

The Nepalese Maoist Movement launched its insurgency, the so-called "People's War," in 1996, almost six year after the restoration of multiparty democracy, in order to overthrow Nepal's constitutional monarchy, and effect a so-called socio-economic revolution. During the 1991-1996 period, parliamentary politics had failed to make any difference in the peoples' lives after the introduction of democracy. The condition of the Nepali people in terms of poverty and disempowerment was increased. And it was in just such a situation that the Nepalese Communist Party, composed of Nepali Maoists, started the revolution.

In this condition, there was a political vacuum, and the Maoists emerged as the voice of Nepal's poor and marginalized, the indigenous ethnic people, lower castes and others. Through mass propaganda mobilization, development activities, and the pro-people guerilla action against the symbols of rural oppression such as the Agriculture Bank and local tyrants, the Maoist movement spread. Further, during the insurgency period, the Maoists were able to use propaganda and form the ethnic and caste based party wings, and give those communities the assertion that when a Maoist government was formed, or when the Peoples' War was successfully carried out, and then they could get their own state, according to what they had during the insurgency. This made for a complex political climax in Nepali politics. So far, the Nepali political parties have failed to promulgate a new constitution due to the contentious issues within federalism, whether the issue was regarding a single state, multiple ethnic states, or so on.

Many scholars highlight that the Maoist movement also had linkage with the Indian Naxal movements. In the Naxal Challenge, there exist: Causes, Linkages, and Policy Options that provide insights of the Naxal Movement and finds the contributing factors of increased violence such as continuing economic and social backwardness and injustice, poor governance, as well external factor and linkages between neighboring countries' politics and conflicts, which are similar to the Nepali Maoist movement.

In addition, in an analytical article called, "Maoist Insurgency in Nepal: An Overview," by Krishna Hachhethu, he mentions that the plan of initiation of the People's War was based on the principle that everything is an illusion except state power. While remaining firm on the principle aim of armed struggle as a means to capture political power for the people, the party expresses its firm commitment to relentless struggle against all forms of deviationist thoughts and trends including economic, reformism and anarchism.

Further, Hachhethu highlights why the insurgency has progressed rapidly, and many factors contributed to the escalation of the conflicts. He mentions some factors:

- The geographical location of Nepal
- A good mass base for guerrilla war (ethnic groups )
- Nepalese working in foreign countries, mainly those working in India

mobilized by conducting political work amongst them and using the area to supply various logistics for success of the armed struggle in Nepal.

Beside this, he also identified several factors such as social injustice, unemployment, and underdevelopment, the problem of exclusion and lack of good governance all of which have contributed to the escalation of the Maoist's armed activities.

Furthermore, Hachhethu included many different views and analysis from divergent perspectives. According to development analysts, the Maoist movement is basically a social and economic issue and is produced and sustained by failed development. Sociologists and ethnologists argued that the Maoist insurgency is an ethnic struggle. They argue for the support of ethnic minority and marginalized groups. Meanwhile, political scientists regard the failure of governance as the main reason behind the constant weakening of the Nepali state and the strengthening of the Maoists. Aside from this, Hachhethu argues that the Maoists were successful in mobilizing ethnic groups and giving the ethnic demands a political framework and those internal conflicts and contradictions among the state actors have given an advantageous position to the Maoists.

Much scholarship concerning Nepali politics highlights the formal development of the state, state and political leadership, mainstream political parties and their development etc ( Hachhethu 2002, Baral 2004). However there has been limited discussion on the Nepali conflict in terms of political and mainstream political actors and parties acting for the attainment of State power.

During the course of this study, there are a wide range of scholarly discussions that highlighted the variables that appeared during the Maoist insurgency, such as inequality, political exclusion, ethnic dimension, state repression, a weak state, the lack of development, and environmental degradation. These were the contributing factors of the growth of the Nepal Maoist insurgency.

In addition, there were some works which have discussed the consequences of the insurgency as well its negative impact on the economy and development, its increase in the militarization of society, and the increase on the restriction on human rights. Some of them discussed the ethnic grievances, and the Maoist mobilization of the ethnic groups (Upreti 2004, Mishra 2004). Moreover, some of the political scientists linked the Maoist insurgency's initiation to the failure of the parliamentary democracy and to the failure of the political parties to work properly within the political system.

## **1.2. Identity Politics**

Since the political changes of 1990, Nepal has seen the development of several kinds of movements, which can be called: social movements in Nepal, identity movement in Nepal, the Maoist insurgency, etc. (Upreti 1992, Neupane 2001). Early in 1990, Nepal was described as a peaceful country in popular discourse and in academia. However, there have been many conflicts and rebellions in its history. After 1990, the collective mobilization that occurred in Nepal has varied in nature and hence its effects differed as well. The contemporary contentious activities emerged from the backdrop of historical and contemporary exclusion, neglect, and changing social and political conditions.

After the multiparty parliamentary democracy was introduced in Nepal, there were several contentious activities and violent rebellion. During the Maoist conflicts, Nepal faced much of this kind of contentious activity from political parties, social



groups, and ethnic minority, such as Limbus`s autonomy, etc.

Furthermore, towards identity politics, many groups were mobilized by communists and student movements', revolts and protest. Nepal also faced the collective struggles of trade unions, teacher, and socio-religious groups (Nepaune 2001). Somehow the national ethnic conflict has occurred in throughout the history of Nepal, but after 1990, its seems to be more visible.

The Associations of different ethnic and caste groups are fighting for the equal recognition of their language, religion and culture, as well as for equal opportunities in politics, economy and society. The identity movements till now (except for the Khambhuan National Front (KNF)<sup>49</sup> and Janatantric Tarai Mukti Morcha (JTMM)) have not launched violent rebellions. There have also been several religious conflicts and riots targeted against the religious sects. The following table shows the Non-Maoist violent conflicts and some contentious activities after 1990.

Table 1: Non-Maoist Violent Conflict (riots and insurgencies) in Nepal since 1990

Table 1. Non-Maoist Violent Conflict (riots and insurgencies) in Nepal since 1990 <u>Year</u>	<u>Events/actors</u>	<u>Location</u>
1992 October	Hindu-Muslim riots during Deepawali	Nepalgunj
1994, November 3-4	Hindu-Muslim riots during Parliamentary election	Nepalgunj
1994 December 3-9	Hindu-Muslim riots during well renovation at a Temple	Nepalgunj
1995, October 25-28	Hindu-Muslim riots during Deepawali	Nepalgunj
1997 May	Hindu-Muslim riots during local elections	Nepalgunj
2000, December 26-27	Parbate-Madhesi (Hritik) riots	Kathmandu and Tarai
Since 1999, increased in 2001-02	Khambhuan Insurgency	Khotang, Bhojpur, Solukhumbu, Okhaldhunga
2004, September 1	Riots against Muslim (Iraq Killing reactions)	Kathmandu
2005 January, 2006 April, July	Madhesi insurgency	Rautahat, Saptari, Siraha, Sunsari

**Source;** Lawoti: Contentious Politics and Democratization in Nepal. (Compiled by PB-2012.)

Table 2: Contentious Activities of Dalit after 1990

Table 2: Some Contentious Activities of Dalit after 1990 <u>Year</u>	<u>Event</u>	<u>Location</u>
1991	Mobilization to sell milk to dairies	Udiyachaour, Syangja
1991	Temple entry movement	Nawalparasi
1994	Mobilization to sell milk to dairies	Chitwan
1994	Gorakhkali Temple entry movement	Gorkha
1994	Right to water from public source	Sipapokhari, Sindhupalchowk
2000, March	Anti-carcass disposal campaign	Lahan, Siraha
2000, June 12	Mobilization to sell milk to dairies	Gaindakot, Nawalparasi

**Source:** Lawoti: Contentious Politics and Democratization in Nepal. (Compiled by PB-2012)

The above table shows the activities which have occurred thus far in the name of social movements and ethnocentric movements. Since 1996, the significance of such

<sup>49</sup> The KNF joined the Maoists (it split and joined again this occurred a couple of times) and JTMM split from Maoist.

movements have been changing nonviolence to violence. Which movements are visible in the Nepali political discourse that gave such a sense of violence that may legitimize their movements?

### **1.3. Findings**

In the development of the Nepali political system, the system has gone through several transformations. Nepal was governed by the autocratic Rana regime, the Partyless Panchayat system, the constitutional monarchy, and as of May 28th, 2008, a Republican state. However, in the contemporary Nepali political discourse, there seem to be severe social movements which might bring the ethnic and religious conflicts back to the forefront, in the name of identity politics. Scholarly articles highlight the political parties' inability to control the collective movements which have significantly caused much violence and framed the discourse on ethnic autonomy.

The Nepali Maoist movement can be taken as an example of contentious politics in Nepal. This took the way of violence to gain political power. So far, the literature shows that Nepal is enduring rapid and massive social and culture changes and social movements, and that identities become both inclusive and exclusive. The Nepali political parties and political discourse have changed since the abolishment of the monarchy. Some of the political parties included those representing: Socialism, Liberalism, Democracy, and so on. However, now, it seems that ethnicity, caste, region, religion etc. have become the center of identity politics. The contentious behavior of Nepali political and social organizations can be a hindrance to the further building of Nepal.

### **1.4. Conclusion**

Nepal's political parties and organizations are becoming more active in social movements across time, which shows significant presence in Nepali politics. In recent times, Nepal's political parties' movements and social movements have begun to turn to ethnic and identity movements which have brought about differentiation in the central political parties. This caused contentious activities both within and outside the organizations and political cards. Thus, the results are always that there are different kinds of movements due peoples' suffering not only in daily life, but also in the arena of nation social security and economic activities.

The nature of political parties, and the social and cultural ties are becoming narrower as identity-based issues and groups put Nepal's political parties and politics into a contentious juncture. It is visible in almost all corners of life in Nepal. The politics of identities have divided the Nepali people, and communal harmony and national unity and nationalism have put at risk. Therefore, since the democratic movements of political parties have been unable to solidify their motto, many have changed over time and with the developments that have happened in Nepal's history. But, it is still the case that political parties, both intra-party and inter-party, are still contending with contentious issues. These issues are always surrounding them, and thus they are always in an unstable, prolonged transition.

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## The Effects of the Environmental Factors on Subjective Health Conditions in South Korea

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### ABSTRACT

With the Health Insurance System being settled down in Korea, the whole nation got to be benefiting the high qualified health services. Nevertheless, the health gap among people remains. Because human health is affected by environmental conditions and circumstances, it is limited to approach to human health by merely medical treatment approach. Human health should be considered with social environmental aspects. This study aims to examine the effects of the environmental factors on the subjective health conditions among Korean population.

This study used the 2010 data set of the Korean Welfare Panel Study administered by the Korea Institute for Health and Social Affairs. The 11,550 cases were selected for this study that met the selection criteria. This study used a multiple hierarchical regression model for analysis. The subjective health conditions represent Korean judgmental perception of their own health condition. The subjective health conditions ( $M=3.48$ ,  $SE=.01$ ) were checked by the respondents from 5(very healthy) to 1(so bad) on the Likert scale. This study focuses on two environments: physical surroundings and personal relationship. Physical surroundings represent poor housing structures and functions. Personal relationships include the level of satisfaction of the relationships with family members and the level of social intimacy. The five variables of age, sex, education, medical benefit, and residential regions were controlled.

The results showed that low qualities of housing structures had negative impacts, but satisfaction with family and social relationships had positive impacts on health conditions. The satisfaction on personal relationships with family and others effected on the strength of health conditions. On the other hand, poor surroundings including residential facilities had negative effects on health conditions. In regard to the control variables, older age, female, and medical benefit recipients had negative effects on subjective health conditions, whereas higher education had positive effects. In terms of residential regions, people who live in cities and rural areas felt healthier than those in metropolis, respectively. In additional analysis with ANOVA, the level of satisfaction with the social intimacy had statistically significant difference between the groups of living in the metropolis and rural areas.

Based on these findings, this study concludes that the promotion on the environments and enhancement of positive personal relationships positively influence the better health conditions. Positive personal relationships are expected to give instrumental and emotional supports to people. This study implies that not only medical treatment, utilization of health institutions but also social conditions as social resources should be considered when policies or programs for human health are developed or evaluated. Likewise, social and environmental approaches will contribute to the effective prevention of health problems.

Keywords : Health conditions, Social environment, Personal relationships

## THE POTENTIAL OR SOCIAL DEVELOPMENT OF EDUCATION

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Century crosses, society full of information, continuous-industrial development, new paradigms of time have the influence on the people's mind. The principle of "education throughout life" is directed to the program "The state program of education in the Republic of Kazakhstan for 2012-2013 years" for our contemporaries who are between the passed and new development [1].

XXIth century is not only the century of global news, but it is the century in the development of education, because now it supports the constant development and security of modern state, it plays the greatest role in raising the quality and the level of state. That's why bringing up today's youth through the national values, i.e. to develop the personality which masters his own folk's customs and traditions, language, culture, human quality, creative. According to the law "About Education" of the Republic of Kazakhstan, taking into consideration the right of each pupil at the secondary school, forming the national valuable qualities in the personality and respecting them, national culture, customs and traditions, folks outstanding people are of great importance [2].

Mastering the national values means to understand the social-ethnic importance of his nation, the condition among the national relations, his contribution in the human development, understanding his role in the society, living in the freedom as in other countries. The most part of the national values are spiritual-cultural works, national spiritual heritage. In such works mood, events which have the influence on the national mind are presented. The outstanding people of culture created spiritually valuable works looking into the history of his own nation. Those historical-artistic works define the role of his nation's role and place in the historical process. At the same time they put the aim to form the national mind through paying attention on the national works.

In our country many changes and renews come into effect. The pedagogical education is not beside this process. Educating according to the international standards, science and education integrations, pedagogical innovations require preparing the future teachers. Till this time in the educational plans of the educational specialties the compulsory subjects are 50 per cent and now according to the Bolon process there is the right to raise the compulsory subjects to 70 per cent in the higher educational institutions on the basis of the principle "academic freedom". It means the geo-economics peculiarities of the region, the direction of the higher education, development strategy, specialty potential, the employer's requirements, specialization and other problems which are of great importance.

Taras State Pedagogical Institute being one of the higher educational institutions which prepares the future teachers has defined itself as the place of professional activity, developing the children's personality, leading the upbringing process from the point of the conceptual view. The academic period in the institute plays the greatest role in the forming the future specialties' portrait. The teacher must be as a

specimen in the upbringing of the young generation. Teacher must be as a model in the upbringing the young generation. That's why a great attention is paid to the students' spiritual and moral successful development in the higher education. In 2012-13 the following disciplines as such as "Basis of Akmeology", for the specialties "Psychology", "Pedagogics and psychology", "Social pedagogics and self-cognition", "Akmeology in the educational sphere", "The applied aspects of akmeological investigations" "Akmeological direction in the forming the pedagogical skill" are included.

Till our days the Ministry of education and science of the Republic of Kazakhstan strenghted his control in the preparation of teachers and it improved its requirements for higher educational establishments. If in our Republic till our days 89 higher educational establishments prepared pedagogical specialists, now 43 can be cut. Since 2012-2013 only national and pedagogical higher educational establishments have got the right to teach some pedagogical specialists. It is the final decision in order to control the innovative activity of higher educational establishments, their material-technical base, some results of the national tests, the demographical condition of different regions. Also it is a result of analytical activity. The optimization of the system of pedagogical higher educational establishments give the possibility to open some science schools on the basis of these educational establishments. On the another hand we feel some requirements for educational quantity. Because the education is the base of social development of society.

There are some measures on the level of Taraz State Pedagogical Institute. These are a new organization of educational process, some scientific-methodical investigations on the basis of industrial requirements. For example, there are 3 months courses in the system of preparation of teachers in our institute according to the Cambridge system. Our colleagues, i.e. head-teachers of Taraz State Pedagogical Institute teach some listeners. They improved their knowledge at Nazarbaev intellectual schools. Our institute have got some connections with some foreign educational establishments on the base of Bolon process. It includes the educational programme which prepared with Seged University in Hungary. These are measures directed to the improvement of educational condition in society.

Under the freedom and independence flag Kazakhstan which stepped into the new period the state president's message defining the directions for the decade in 2012 "Social-economic development is the main direction in the development of Kazakhstan" is directed to the development of the human capital. There the main task is to develop the social-economic sphere through improving the Kazakhstan' education. Our President set the task to use the modern and innovative technologies into the teaching process, to improve the quality of the teaching staff, to form the system which proves the improvement, and to widen the sphere where they can get education. N.Nazarbayev noted "We should not only teach the children, but they are to use their education in the social oriented process" and he obliges the teachers to improve the children's functional literacy [3].

In modern Kazakhstan position is directed to the development of human capital the major role is given to education. In the period of globalization the educational paradigm is aimed at developing the common human values in the future generation, to form the planetary mind through changing the old stereotypes. This strategic direction attracts the innovations in the humanitarian sciences and also in pedagogic sphere. As a phenomena of the new period metaphysic knowledge which studies the

space law is being developed. The great power which lays in the deep basis is the spiritual development of people through his cognition. This principle is left for us as a heritage from the steppe thinker Al-Farabi's works, ("Way to happiness", "Simple town inhabitants"), K.Iassauy's hikmets ("spiritual freedom", "wise man" ideas), M.H.Dulaty ("Tarih-i-Rashidi", "Zhahanname") and Zh. Balasaguni ("Saint knowledge") legends, poets' pleiad in the nomads' history, at the same time Abai's words-edifications and Shakarim's heritage and Islamic principles. Nevertheless there many centuries passed, our saint and great leaders' works are of great topicality and they are due to time.

Every specialty has its own means of work, but the teachers' duty is to work with the children which is considered as a pure natural product. The teacher's duty is also is – to orient the pure things as children to the society called "life", to form their outlook, to prepare orientally them for the mutual relations, to look around with respect, to be kind towards other surrounding people, to teach them as conscious, unique person, to teach them to understand their own power, quality from the early period. Yes, yes, the pedagogical staff takes this not as a compulsory duty, but as the truthful responsibility, their work will be successful only when they feel their responsibility completely. Obligated due to the law of the Republic of Kazakhstan "About education" "Teacher's authority" will rise successfully. The main moving power in raising the teacher's authority is the state's evaluation the teacher's work and raising their salary, and other social supports. And in the society the main way of raising the teacher's authority is inner content which is at teacher's hand. Nowadays it is possible to bring up qualitative teachers in order to form kind and responsible attitudes.

Present social direction in the way of developing the informational period and constant development requires filling the content of the academic subjects. On the basis of their modern social norms, innovations due to the new life, especially the humane respect, mastering the spiritual development ways. On the other hand renewing the academic programs and literature, all types of work directed to improving the qualifications, bringing up the individual persons throughout the innovative technologies and include them in the academic process, and mastering them as a measure of the teacher's development – these are the most important steps in preparing the teachers of a new period.

Taking his beginning from the President's experimental thing in "Model of prepaing the teacher of new quality" in the local district which is considered as the place of improving the staff's quality "Centre of pedagogical skill" branch is opened at Taraz State Pedagogical Institute. It will be as a means of developing the teachers staff and the new generation and to bring them up consciously.

Its not impossible to realize the new paradigms of pedagogical preparation without the scientific development. Science is the greatest strengths in educational sphere in future. The Law of the science of the Republic of Kazakhstan has got the item of grant in scientifically accreditation higher educational establishments. This process is finished successfully by Taraz State Pedagogical Institute. As a result our head-teachers participated in different scientific contempments, they have got the right in order tofinanceresearches from the state budget. Our collective aren't only fond of pedagogical investigations, they achieved success in the sphere of mathematics, biology, chemistry, history, etc. But the main scientific direction of our institute are the scientific- methodical problems of pedagogics and psychology in the case to the 12th education.

The President of the Republic of Kazakhstan told our people of crisis of state which didn't the develop its education in the 21st century. The problem of the 12th education appeared in 80% countries. The main aim of the 12th education is to educate the well-educated personality according to the social requirements. Therefore the 12th year school is the improvement of functional education of pupil, i.e. its useful to use the knowledge for the whole life.

In September of 2012 President of the Republic of Kazakhstan held an interactive lecture on-line called "Kazakhstan is on the way of educating society" Taking into account the previous success and present success our President noted: «... we go to the industrialized society where the triangle "knowledge is an innovation" prevails". Youth must own Kazakhstan's science and technology, they must master their own principles. Any owner of his profession will succeed in his work only owing to the work with new methods and ways. The future life will be better only when theory and practice is held together" [4].

Our President is the leader in renewing the society according to the world leading tendency. This includes three-language system in all levels of education is being held for improving the educational system in Kazakhstan. President's renewing the kindergarten' education, especially the ideas of teaching the very young children and the program "Balapan" is considered as a good news for the teaching staff of Taraz State Pedagogical Institute. Taraz State Pedagogical institute has more than 7 thousand students and professors, head-teachers of a new content took N.Nazarbayev's lecture "Kazakhstan is on the way of educational society" as a strategic course which defines the power of knowledge. At present it is truthful guarantee of education and science. In order to improve the pure future of the developing country it is necessary to raise the quality of education.

Today's political condition, social national relations connected with it, changes in these relations have the influence on people's mood in some degree. At this point for developing the individual person at an equal level in the republic of Kazakhstan which is holding the democratic and national policy, education system has many requirements. The most important of these requirements mean that it is necessary to find out the new ways of bringing up the young generation, to improve the teacher's skill according to the present concrete steps of development.

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## Thai Wisdom in Rural Community, Southern Thailand

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### ABSTRACT

**Background:** Thai wisdom is knowledge related to day to day living, occupation, and culture that has been passed on by Thai ancestors from generation to generation. In rural community in the southern of Thailand, local wisdom was kept and passed on to younger generation by storytelling. Therefore, there is a need to explore local wisdom in local key informants. **Methods:** Rapid Ethnographic Community Assessment Process, a method using in-depth interviews and focus group discussion, was done with key informants. In order to identify background, path of development, social capital, outcomes, and key success factors. Triangulation and content analysis were use to analyze data.

**Results:** There are local wisdoms emerged from various sources of learning including family members, relatives, and community leaders. The characteristics of knowledge are closely associated with man, sacred items, and nature which inherited from their ancestors to new generation. Newly emerged knowledge was continuously evolved over period of time according to social, cultural and environmental contexts. The eight branches of community uniqueness were agriculture branch, Thai traditional medicine branch, natural resources and environmental management branch, community fund and business branch, social welfare branch, art branch, organization management branch, and religion and custom branch. The result also showed that path of development of local wisdoms was inherited from local ancestor and supported by four main organizations including local administrative organization, leader of community, government sectors and population sectors. Focusing on social capital, this attribute indicated individual competence in wisdom management of each branch. Implementation of wisdom as instrument for community development caused several benefits such as social security, good occupation, and increase income.

**Conclusion:** Key success factors included participatory problem solution and community development, groups' competency development, organizations, learning networks, field trips to various places for exemplary performance and budget allocation for community support.

Keywords: Rapid Ethnographic Community Assessment Process (RECAP), Rural community, and Thai wisdom

### 1. INTRODUCTION

Thai wisdom is knowledge, capacity, method or product which Thai people explored, improved, and collected knowledge and experience related to day to day living, occupations and culture. It had been passed on from generations to generations (Settaboonsang, 2006). Thai wisdom has 10 branches such as agriculture branch, industrial work and handicraft branch, herbal doctors/medicines, management of natural resources and environment, community's business and fund raising branch, art and folk drama branch, organization management branch, local language and literature branch, and philosophy, religion and culture branch (Sungsri, 2012; Pakdeewong, 2010). Thai wisdom is similar to local wisdom in the aspects of its

body of knowledge and technique of using decision making and problem solving. However, local wisdom has its body of knowledge and technique that specifically for each community.

Local wisdom is basic knowledge gained from living in balance with nature. It is related to culture in the community which is accumulated and passed on. Local wisdom can be both abstract and concrete, but its characteristic comes from experiences or truth gained from life. The wisdom from real experiences integrates the body, the spirit and the environment, and it emphasizes on the respect for elders and their life experiences (Nakorntap. et al., 1996; Sungkharat. et al., 2010).

Local wisdom develops in community. Community is a mini society where members share similar goals and hopes, help each other in various ways, and learn together (Vasi, 2007). Community has its own culture. It comprises of various components such as a production system, a resource management, a health system, a knowledge and learning system, a judicial system, a self-governance, and an economic system that run by each family and the community. The ultimate goals of rural or local community are the self-sufficient of community members and the survival of the community itself (Boonpanya, 2006).

The society of South Thailand is mainly agriculture. Local wisdom is often handed down by storytelling rather than documenting it. The top three well-known of local wisdom in the Southern of Thailand are lullabies singing, and folklore such as Nora and Nang Talung.

Lullabies songs were sung by mothers to comfort their babies at the bedtime. The content of these lullabies contains morals and virtues which many influence on children's thoughts and their ways of life when they are getting older. The most famous folklore tradition in South of Thailand is Nora, a dance-drama based on showing respect to ancestors in the Nora lineage. Another folklore tradition, which is also considered to be a symbol of the South, is Nang Talung, a shadow puppet plays. Southern Thais are well known for their local handicrafts, which can also be viewed as character building activities. Thailand has government-sponsored program called One Tambon (community) One Product or OTOP. Each community concentrates on one product which is expertly produced with local materials. Weaving, either of traditional cloth or products made from natural grasses, reeds, and vines, is one example. Others are fish products, fruit and vegetable products, coconut shell products, and batik cloth. The villagers develop a community spirit. They have to teach and help each other so they become more generous with their time and ideas (Manoch. et al., 2011).

Chalae community is a rural community in Songkhla Province, Southern Thailand. The leader of local administrative organization created healthy public policy called "Chalae Healthy Charter". It is the first Community Healthy Charter in Thailand. Philosophy' Chalae Healthy Charter is community participate to improve individual health, family health, and community health by loveliness and understanding. The cultural heritage and natural environment sustainable development based on morality, virtue, and economic sufficiency. The goal of community development is self reliance and community strengthening.

Local wisdom in Chalae community is the knowledge that villagers have created and experienced generation after generation: However, little is known about local wisdom in Chalae community. Therefore, there is a need especially the wisdom that

passed on by elders.

## 2. RESEARCH OBJECTIVES

This research aimed to explore Thai wisdom in Chalae community, Singhanakorn district, Songkhla province.

## 3. METHODS

The Rapid Ethnographic Community Assessment Process (RECAP) aimed to explore Thai wisdom in Chalae community, Songkhla province in the southern part of Thailand.

The areas covered by the study are five villages of Chalae community. This area is a bio-diverse area which consists of swamp forest and low plain. Due to the geological conditions in this region, the production mode of the people in the community around it is diversified in each local area. Villagers use production technique which match their environment and the **social context in their areas**.

The in-depth interview of 30 local wise people in 5 villages of Chalae community was conducted. A semi-structured interview was performed and each one lasted for one to two hours. Using sets of data to community studied developed by Nuntaboot. et al., (2010) as an instrument, it composed of four sets of data: 1) social capital data set, 2) analysis data set such as community problems, 3) organization, mechanism, and procedure data set, and 4) outcome data set such as development conditions/ stakeholders. Strauss and Corbin's theoretical sampling was used for selecting key informants (Strauss & Juliet, 1990:42-43, 177-179). The authors then chose the characteristic of the first group of key informants who were local wise people, and admired by officials or private organizations. These wise people must be the experts in production, management, integration of traditional and modern knowledge, and so on.

Regarding the collection of data, the authors analyzed the data to develop concepts and categorize data at the same time. The authors also selected other key informants who are villagers in the communities when he found data which was different from the categories already created. The data was used to confirm the propositions, and the output released as the theoretical conclusion or temporary hypothesis. In addition, the temporary hypothesis was applied as the standard in the subsequent selection of key informants.

In-depth interview was used to collect data. Interviews were conducted using a semi-structured interview guide. All interviews were audiotape and transcribed word by word. Data was analyzed for developing the theoretical conclusion. Afterward, the author created the concepts by interpretation and defined the meanings of concepts in many dimensions. Then, the authors categorized data to set up the propositions and theoretical generalization to describe the local wise people's knowledge and the concept of development by using community culture as a main idea. Finally, the case is presented by descriptive analysis.

## 4. ETHICS

This research recognized human dignity, human rights, justice, and accurate by these implements: 1) permission to engage the field study, 2) coordination with key

informants, 3) reference names with pseudonym, 4) asking question with carefully consideration, and 5) reflection data between key informants and researchers.

## 5. RESULTS

Local wisdoms in Chalae community emerged from various sources of learning including family members, relatives, and community leaders. The characteristics of knowledge were closely associated with man, sacred items, and nature which inherited from Chalae's ancestor to new generation. Newly emerged knowledge was continuously evolved over period of time according to social, cultural and environmental contexts. The eight branches of community uniqueness were found as follows:

- 1) Agriculture branch included community enterprise of sufficient economic learning group and unpolluted vegetation. This group was assembled after they had been trained about economic sufficiency philosophy. They applied economic sufficiency in their daily life, and the economic sufficiency learning center was set in their home.
- 2) Thai traditional medicine branch consisted of Thai traditional massage and Thai traditional massage for chronic patients. Chronic patients who were not be able to perform activity of daily living received a massage with the combination of hot compress by Thai herbs.
- 3) Natural resources and environmental management branch composed of group of sufficient economic philosophy based sanitary homes and home stay, camp and study of ecological systems of mangrove forest.
- 4) Community fund and business branch were village fund and one baht (0.03 USD) daily fund. Two community funds are important resource for improving the quality of life of community members and the sustainable of community.
- 5) Social welfare branch comprised of the reserved territorial defense volunteers and a children developmental center. This branch improved the quality of life and provided assets security for community members.
- 6) Art branch included two groups: Nora group and local tom-tom artists and stucco modelers group. These Thai wisdoms were passed on from generations to generations.

Nora and local tom-tom artists are the types of entertainment that gathered people in community. Nora Roong Khruu Ritual is a dance-drama based on showing respect to ancestors in the Nora lineage.

- 7) Organization management branch were moral development center, cultural council of Chalae sub-district, group of public health volunteers, significant community leaders, children and juvenile council, and elderly club.
- 8) Religion and custom branch included local wisdom such as ceremony for ordination encouragement and local rites. Chalae community members applied the religious doctrine and tradition to guideline their daily life.

In relation to background and path of development, local wisdoms of Chalae people were inherited from local ancestor and supported by four main organizations including local administrative organization, head of villages, government sectors and popular sectors.

Concerning social capital, this attribute indicated individual competence in wisdom management of each branch. The significant individuals were leaders and group of wisdom creators operating with regard to local wisdom heritages that

descended from ancestor and are important for community development and strengthening.

In connection with outputs or outcomes and key success factors, implementation of wisdom as instrument for community development caused several benefits such as social security, good occupation, good income, and reduced debt. In addition, outcomes resulted in the cooperation between internal and external networks, the presence of community strengthening, the learning resources of local wisdom for next generation, the process of individual competence development, and the process of cooperative learning between people and organizations in community.

Key success factors were participatory problem solution and community development, competence development for group, organizations, learning networks, educational trip to various places for exemplary performance and budget allocation for community support.

## **6. DISCUSSION AND CONCLUSION**

The eight branches of community uniqueness were agriculture branch, Thai traditional medicine branch, natural resources and environmental management branch, community fund and business branch, social welfare branch, art branch, organization management branch, and religion and custom branch. These results related to categories of Thai wisdom (Thai encyclopedia, volume 23: 2541).

The path of local wisdoms development had been passed on from generations to generations. Local wise people have adapted local knowledge into the production modes by using concept of self-reliance and self-sufficiency. This knowledge includes the production of items using in household, vegetable gardening, using bio fertilizers, agro-forestry, integrated agriculture, organic agriculture, and the resource management.

Social capitals in Chalae community were local wise persons and head of villages. They promote various groups of production in community and established learning network between communities. Putnam (1995) mentioned that social capital was very importance as follows: 1) social capital could be help the people solved the problems easily by helped together; 2) social capital as “the grease” to promote people to work together; 3) social capital promoted awareness and social network as a pipe that sent data to community member so it helped community to easily meet their goals of community development.

Using Thai and local wisdom as a guide to community development was an important process to help villagers to live sufficiently and independence. The process of sharing experience between leader of villages improved the competency of community leaders to reach community strengthening. Vasi (2008) and Nuntaboot (2009) mentioned that learning together process of practice composed of perceived problems and community capacities together, learning together by share experiences, and management.

## **7. RECOMMENDATIONS**

### **7.1 Formal education**

1) Teachers should encourage students to realize the importance and the value of local

wisdom.

- 2) Teachers should provide their students with supplementary and experiences from local wisdom.

## 7.2 Informal education

- 1) Local administrative organization should survey and compose the list of local wisdom that are available in their areas.
- 2) Local administrative organization should support for setting up local wisdom, learning center in each local area.
- 3) Local administrative organization should make public relations to people about knowledge, experiences and work of local wisdom.
- 4) Local administrative organization should support local wisdom with materials and instructions to use for transferring knowledge to people.
- 5) Local administrative organization should support local wisdom in making their houses or local learning centers to be places for study, visit and practices.

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# Psychology I

13:00-14:30, December 15, 2012(Room 2)

**Session Chair:** *Marie Grace Avelino Gomez*

**306: The Influence of Mothering on Adolescent's Delinquency**

*Mahshid Manouchehri*

*University Putra Malaysia*

**081: The Interethnic Perception Peculiarities of the Other-Person Appearance**

*Maryna Surudzhii*

*Kyiv National University*

**092: Pasrah (Surender) and Sabar (Patient) among Indonesia Etnichs (Javanese, Sundanese, Betawi) Through Disaster: an Indigeneous Psychological Analysis**

*Handrix Chrisharyanto*

*University of Paramadina*

*Fatchiah Ekowaty Kertamuda*

*University of Paramadina*

**097: Human Learning and Cognition: The Relationship between Prepositions and Cognitive Processes**

*Chun Chun Lai*

*The University of Hong Kong*

**151: Concept of Posttraumatic Growth of People Affected Merapi Eruption in 2010: A Qualitative Study to People of Krinjing Village, Indonesia**

*Mellia Christia*

*Universitas Indonesia*

*Arnfinn Helleve*

*University of Oslo*

**156: Moral Reasoning of Filipino Children in Conflict with the Law**

*Marie Grace Avelino Gomez*

*University of the Philippines-Diliman*



## The Influence of mothering on adolescent's delinquency

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### ABSTRACT

The study investigated the influence of maternal attachment and family factors (age of mother, year of maternal education, number of sibling, and monthly family income) in Iran. Sample sizes of 528 were used for the study. Relation and Regression statistic were used for the analyses of the study. The findings indicated that older adolescents with high educated older mothers are more prone to engage in delinquency. Contrary to previous findings, numbers of sibling was not correlated with adolescent's delinquency among Iranian adolescents. Result of regression analysis indicated that older adolescents with old age and high educated mothers, with insecure maternal attachment are more likely to engage in delinquency behaviours. Moreover this study also explained that high family income, can lead to an acceleration of delinquency.

Keywords: Maternal attachment, Adolescents, Delinquency, family factors

## THE INTERETHNIC PERCEPTION PECULIARITIES OF THE OTHER-PERSON APPEARANCE

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### **ABSTRACT**

The peculiarities of image appearance formation of the other ethnic groups' representatives are found out in the article. The basic mechanisms and phenomena, that affect the interethnic perception process, are analyzed. The visual psychosemiotic basic notions and importance in the interpersonal communication are determined.

**Keywords:** the ethnic appearance image, the ethnic appearance standard, the identification, the social typification, the physiognomic reduction mechanism.

The modern society is characterized by the dynamics of social processes, which increases the number of human interpersonal contacts. Perception of another person, his image construction is an integral component of interpersonal interaction. Obviously, the adequacy of the object perception display, the accurate selection of its most significant parts determines the specificity of emotions and attitudes, the achievement of joint activities.

The ethnic appearance image is a complex of ideas and associations that have developed historically and that are sufficiently stable. They reflect the cognitive, social and cultural experience of the people; also they include emotional, pragmatic and aesthetic aspects of their perception and evaluation.

The phenomenon of interpersonal perception was studied by many scientists (O. Bodaljov, V. Ageev, G. Andreeva, I. Kon, A. Yurkevych, M. Mahnij, T. Danylchenko, V. Labunsjka, Anthony T. Cooper C. & Mullen B., A. Alvergne, R. Oda, C. Faurie, V. Durand, M. Raymond, A. Matsumoto-Oda, I. Choi, R.E. Nisbett, and A. Norenzayan, M. Snyder, E. Decker Tanke, Berscheid etc.).

One of the primary needs of the human as a social individual is a need to understand natural phenomena, people acts, relations between countries and others. However, the dominant need is the man-by-man understanding. Mutual understanding is an extremely complicated phenomenon, whose effectiveness depends on information that people receive from each other, on the measure of interest in each other, the level of sympathy or antipathy, etc. (Махній М.М., 2011, p.21).

Interest in the study of inter-perception is not random in a multiethnic and multicultural society, such as Ukraine today. For every Ukrainian who is aware of his existence in the social space and time, the last fifteen years have been coincided with intense overriding relations, in particular - special accentuation of ethnic relations.

The ethnic appearance image is a collection of ideas and associations that have developed historically and is sufficiently stable. They reflect the cognitive, social and cultural experience of the people, also include emotional, pragmatic and aesthetic aspects of his perception and evaluation (Богуславский В.М., 2004, p.76).

The comparison of both individuals and nations is conducted mainly by the way of their expression of certain traits or characteristics. But for the objectivity one must always consider the relativity of any ethno-psychological characteristics. In human consciousness the biological causes of ethnic groups' variety are mixed with those who have cultural origins. The form of lips, shape of the eyes, smile, the eyebrows, which arise as biological features, are combined with what appears on the face as a result of unconscious imitation of surrounding people.

Due to the nature of the exterior features that allow one to distinguish members of one ethnic community against another and allow people of one ethnic group to identify themselves as representatives of a national historical society, are the psychological image of "own". This image as a means of orientation among people of different nationalities is a structural component of the consciousness of each member of the national and historic community. Psychological adjustment to a positive perception of "own" leads to the fact that this image is characterized by positive emotional coloration (Махній М.М., 2004, p.174).

The ethnic appearance image as a phenomenon of national culture plays an important role in communication. This phenomenon is the complex conceptual phenomenon, which is formed by external, physical and intellectual attributes, which is attached with certain sign content.

Traditionally, it is considered that human face is the main appearance component and its expression plays the most important role in the people's communication. The overwhelming majority of nonverbal communication researches are dedicated to the human face. But in reality, the important information is carried by the whole complex of constant characteristics (sexual, age, race, constitutional), the middle constant (clothing, shoes, hairdo, embellishment, cosmetics) and personality dynamic display, which includes the features of expressive behavior (facial expression, pose, gesture, walk, deportment, tone, speech) and other behavioral characteristics (motions, acts, deeds). All above-mentioned characteristics are the features, on which one is oriented in the process of other person perception and they all can appear as certain data medium and play a signal role (Бодальов А.А., 1982).

In terms of psychosemantic approach, the man's physical appearance stands for the subject of perception as a sign, the text, which has some information about the properties of the perception object. The "read-out" of this information is occurred in accordance with the settings, dispositions, values of the subject of perception, individualized in the development of symbols, ideas and images in which the culture perceives, evaluates, interprets and regulates the exterior of the individual and which can be defined as bodily symbolism (Петрова Е. А., 1997, p.143).

Every ethnic culture has specific features, unique "keys" for the other person appearance "reading" with simultaneous or subsequent interpretation and evaluation of a person. M.M. Mahniy notes that these "keys" are quite effective when they are "added" to the representatives of the same culture. That can quickly, sometimes automatically, and sufficiently adequately perceive the other person. But the same tools can be quite inadequate and insufficient for other ethnic group's perception. The

greater differences between cultures, the less "keys" are suitable to one culture for the automatic reading of other members. This can explain the huge undifferential perception and memory of other ethnic groups, people from distant cultures, even in purely external terms seem quite similar to each other, until the illusion of complete identity (Махній М.М., 2004, p.45).

It can be also connected with the effect of social consensus, founded by Tajfel H. and Fraser C. This phenomenon is interpreted by scientists as the influence of social phenomena, taken patterns of their interpretation in a particular culture, in a particular type of society on the individual knowledge. These patterns have conventional meaning, that is a kind of agreement on how will be interpreted certain data obtained in the process of cognition of social phenomena. These "arrangements" exist in every culture and are also concerned to the image appearance (H. Tajfel & C. Fraser, 1978).

The mechanism of physiognomic reduction, studied by V. Ageev, describes the process of personal qualities detection by the human appearance. The results of experimental studies have shown the dependence of evaluation components in interpersonal perception of such ethnic culture components, as proverbs and physiognomic descriptions (Ареєв В.С., 1985, p.135). The fact of presence of physiognomic representations in one culture and the absence in another also causes the emergence of fundamental quantitative and qualitative differences in the perception of the same social objects from different cultures.

The significant impact on the process of unknown person image is also made by such social-psychological mechanisms as stereotyping, benchmarking, cross-race effect, cross-race bias etc.

The cross-race effect describes the decreased ability to recognize and process faces and facial expressions of people not belonging to your own ethnic group compared to people's faces of your own ethnic group (L. Marcon, C. A. Meissner, & R. S. Malpass, 2008). In this neural phenomenon of face recognition humans perform better when they recognize faces and emotional facial expressions of persons of their own race in comparison to faces and emotional facial expressions of persons of other races.

A great deal of research has focused on examining the causes of the cross-race effect and its impact on face recognition and identification accuracy (J. C. Brigham, P. Barkowitz, R.S. Malpass, J.L. Marcon, T. Anthony, B. Mullen, C. Cooper etc.). As a result, a number of theories have been developed in an attempt to explain why the cross-race effect occurs, yet there is currently no general consensus on any one theory. Three of the more prevalent theories are the inherent stimulus differences hypothesis (J.E. Chance & A.G. Goldstein), the social attitude hypothesis (V. Seeleman), and the differential experience hypothesis (R.S. Malpass & J. Kravitz).

In social psychology the cross-race bias is described as the "in-group-advantage". In the narrower sense the cross-race effect is a special form of the "in-group-advantage", because it is only applied in interracial or inter-ethnic situations. The favoritism of in-group members also results from the decreased inborn motivation to read in a face of a person of another group or culture. Hess, Senecal & Kirouac showed that the motivation to decode the emotional facial expression instantly decreased when the experimental subject realized that the face belonged to a person of another race (C. A. Meissner, & J. C. Brigham, 2001).

In a globalized world, in which different cultures and races collaborate and negotiate about contracts, licenses, rights and political decisions, one clearly sees the negative impacts of the cross-race effect. The German Department of Intercultural Communication stated that at least 50% of Western-Chinese negotiations fail due to an impaired communication. Even signed contracts lead in 60-70% of the cases to suboptimal results. Consequences of the Cross-Race Effect include reduced emotional intelligence, bad evaluation of the trustworthiness, low abilities to communicate, missing empathy and a decreased ability to judge the overall situation of a negotiation (S.L. Sporer, 2001, p.39).

Thereby, the ethnic appearance image as a phenomenon of national culture, plays an important role in communication. This phenomenon is a sophisticated conceptual phenomenon, which is formed by external, physical and mental features, which are involved with some symbolical meaning. The process of interethnic image appearance formation has many complicated aspects and some of them still a need for deeply investigation.

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***Pasrah* (Surrender) and *Sabar* (Patience) Among Indonesia Ethnic  
(Javanese, Sundanese, Betawi) Through Disaster:  
An Indigenous Psychological Analysis**

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**ABSTRACT**

This study will discuss about responses (surrender, patience) of Indonesia Ethnic (Javanese, Sundanese, Betawi) through disaster of earthquakes, volcanic eruptions to the extreme weather conditions. The purpose of this study is to examine the response of the three tribes in Indonesia. The respondents of this study is 288 people which 146 ethnic Javanese, 76 ethnic Betawi, and 66 ethnic Sundanese. The data was analyzed using indigenous psychological approach. The results of this study were taken in the three tribes on response of *pasrah* (surrender): Javanese (22.60%), Betawi culture (15.79%) and Sundanese (15.15%). In addition, the response of *sabar* (patience) for Javanese culture (7.53%), Betawi culture (3.95%) and Sundanese culture (3.03%).

Key words: Ethnic, Indigenous Psychology, Surrender, Patience.

**1. INTRODUCTION**

Indonesia is geographically and climatologically susceptibility to basically have faced with natural disasters. Sudibyakto, Retnowati, Suryanti, and Hisabron (2012) describes the geographical condition of Indonesia surrounded by the Eurasian plate, the Indo-Australian plate and the Pacific plate at any time will be shifted broken plates cause earthquakes and tsunamis. Indonesia is also a pathway The Pacific Ring of Fire, which is the series of active volcanoes in the world. In climatology, Indonesia is tropical conditions can cause drought to extreme rain that can cause flooding.

In connection with the potential catastrophe of the state of Indonesia, Jakarta as the capital of Indonesia in reality has experienced natural disasters. Head of the Disaster Prevention Agency for Disaster Management Jakarta, Danang Susanto in Socialization Capacity Building for Disaster Management said that natural disasters which threaten Jakarta floods and cyclones ([www.menkokesra.go.id](http://www.menkokesra.go.id)). Based on data from Disaster Prevention Agency for Disaster Management, there are currently 62 points floods in Jakarta.

Based on the existence of a disaster is always faced by people in Jakarta, It will give the effect of losses that could be material and psychological effect. In this case, natural disasters such as flooding in Jakarta have occurred in 2007. Based on the data, the worst floods in Jakarta occurred in 2007 ([www.beritasatu.com](http://www.beritasatu.com)). At that time, a total of 80 people were confirmed dead, loss of material due to the business turnover reached more than 4,3 trillion rupiahs. Because of the disaster, 320 thousand residents flooded out.

Natural disasters bring long term negative effects (Davidson & McFarlane, 2006). This negative effect can lead to damage conditions for example biological, house, materials, life-threatening, physical pain to psychological. The damage conditions can influence personal to lead the community itself.

Looking further to psychological effects of a disaster in particular should be able to realize the effects that can interfere with a person's mental health. Maintain psychological equilibrium disaster becomes a very important for people to be able become sustainability and a better life for the individual.

The condition of individual psychological who have experienced threat or as victims of natural disasters become one of interesting study in psychology. Researchers understand that the existence of a natural disaster especially in Jakarta and generally in Indonesia is one of the problems that face by individual and the community. Because of that, they have to be prepared for it. In the study of psychology, the existence of the problems required an effort to address and confront the issue.

Jakarta as a miniature state with heterogeneity people from various tribes and also as the capital of Indonesia, it is a region with threats and natural disasters. Some of the ethnics live in Jakarta including current is Javanese, Betawi and Sundanese.

In reality, the existence of tribes in Indonesia has its own uniqueness. Uniqueness is one of them when seen from the process and attempt to face a problem in life. The existence of the tribes were also basically related to the values they hold. Those values become a guide for them to live and to face of catastrophic problems. The existence of the three tribes became one of the separate interest for researchers to know how they response when they are dealt or deal with natural disasters in the future.

### **1.1 Pasrah (surrender) and sabar (patience)**

Pasrah (surrender) and sabar (patience) in the context to Indonesia is strongly influenced by cultur and religion. Basically, these values are also attached to the three ethnics (Javanese, Sundanese, Betawi). The condition was influenced by religion and culture. Here in an explanation of the values associated with the surrender and patience.

### **1.2 “Pasrah”(Surrender)**

Surrender (Pasrah) is a value that can be interpreted differently. Related to ethnics (Javanese, Sundanese, Betawi), the surrender value will be strongly influenced by each culture. Surrender has simple meaning yet very complex in implementation.

Surrender is simple and yet complex. It can be inviting, not threatening. It can be fulfilling, not defeating. It is an act that does not merely effect a natural progression of change; it is alchemical in its magical ability to transmute us from one state of being into another. It is a tool that we can willfully employ for beneficial development. In order to contextualize the role of surrender, I frame it within the transformative process. Transformation is a ten phase experience which starts with a disorienting dilemma and then leads into progressive stages of engaging and evolving our habits of mind (Mezirow cited from Moze, 2007).

### **1.3 “Sabar” (Patience)**

Patience is a system of psychological defense mechanisms to cope with the

problem of human being as a *khalifah* of Allah. As a system, patience can be divided into input (stimulus), process and out put (response). Al-Ghazali (cited from Hasan, 2008) defined patient as a unique human being as *khalifah* (vicegerent) of Allah. Patience is something that dynamic. Muslims look at the dynamics of patience as a circle that comes from God and returns to God. With its dynamic, patient is not a something passive. Patience is not submissive and obedient without resistance and struggle and effort but an effort to maintain mental fortitude and belief in good outcomes.

#### **1.4 Indigenous Psychology**

Indigenous psychology can be defined as the scientific study of human behavior (or the mind) that is native, that is not transported from other regions, and that is designed for its people. (Kim & Berry, 1993). According to Kim & Berry (1993) there are several fundamental assumptions and research strategies that are shared in the indigenous psychologies approach: (1) the indigenous psychologies approach emphasizes understanding rooted in the ecological context. (2) Indigenous psychologies are not studies *exotic* people in faraway places. Indigenous understanding is needed for “developed” countries, underdeveloped countries and countries that espouse sets of sociopolitical ideologies different from those found elsewhere. (3) The indigenous psychologies approach is part of the scientific tradition, and an important aspect of the scientific endeavor is the discovery of appropriate methods for investigating the phenomenon of interest. (4) One of the goals of the indigenous psychologies approach is the discovery of universal facts, principles, and laws. In the indigenous psychologies approach, individual, social, cultural, and temporal variations are incorporated into the research design, rather than eliminated or control.

## **2. METHODS**

### **2.1 Participants**

The respondents of this study is 288 people which 146 ethnic Javanese, 76 ethnic Betawi, and 66 ethnic Sundanese. Ages of the responden between 21 through 60 years old.

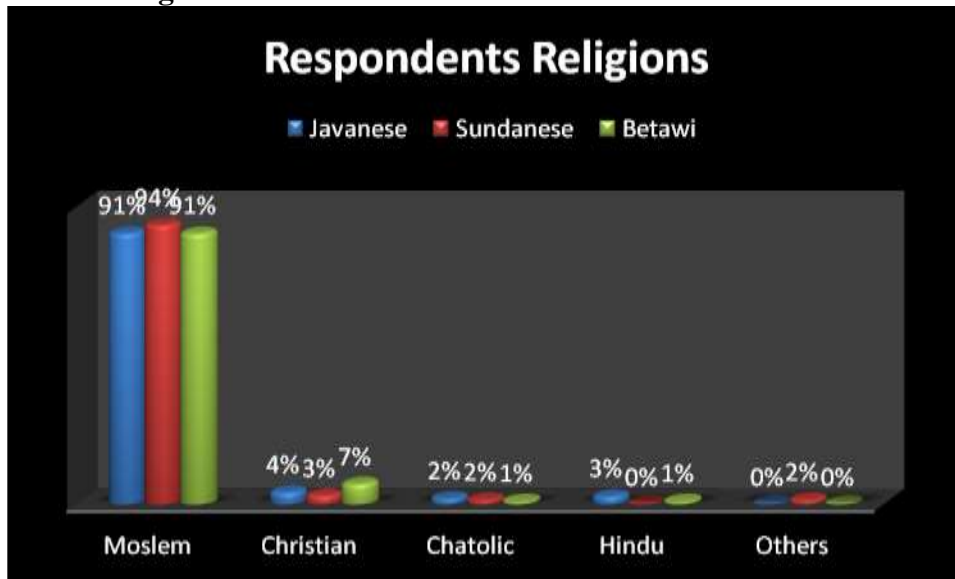
### **2.2 Data collection**

Data collection for this study was done by posing the question of “*How do you response to a natural disaster?*” According to Kim and Park (2006) the question was based on an open-ended question, which allows the participants to explore their answers as the questions have no definite answer. Techniques of data analysis through the states of coding and tabulating the results of the data collection. The responses of those questions were later categorized based on keywords, and later put in themes such as *pasrah* (surrender) and *sabar* (patience).



### 3. RESULTS

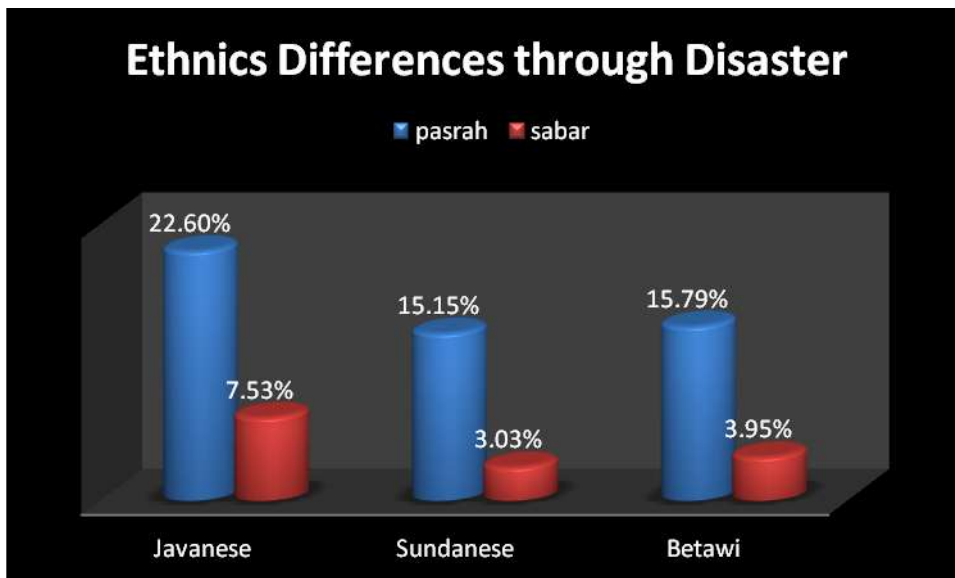
#### 3.1 Respondent Religions



Tabel 1. Respondent Religions

Tabel 2 shows that respondents religion on each ethnics. Javanese respondent are 91% Moslem, 4% Christian, 2% Chatolic, 3% Hindu. Sundanese respondent are 94% Moslem, 3 % Christian, 2% Chatolic and others 2%. Betawi respondent are 91% Moslem, 7% Christian, 1% Chatolic and 1% Hindu.

#### 3.2 Ethnic differences in associations between responses through disaster



Tabel 2. Ethnics differences through disaster

Tabel 2 showed that differences between ethnics through disaster. Javanese (22.60%), Betawi culture (15.79%) and Sundanese (15.15%). In addition, the response of *sabar* (patience) for Javanese culture (7.53%), Betawi culture (3.95%) and Sundanese culture (3.03%).

Some of the statements describe this category from each ethnics. Javanese; “*Be*

*patience because all the will of God”, and “Be patience and try to get up”. Sundanese: “surrender to the Almighty God” and “patience and tried to rise”. Betawi: “Perceiving and just pray, be strong, and patience” and “sure that there will be a better tomorrow”.*

#### **4. DISCUSSION**

The values of patience and surrender is a basic human values to find other values in life. Disaster or tragedy in human life is a way or a way to find these values. In addition, the ability of humans to respond or react to the disaster that happened, then the values that will serve as guidelines in dealing with the problem.

Surrender and patience are the concepts of value that is owned by the three ethnics. From the results of the study found that the concept emphasizes spiritual values. This showed from the statements of respondents whom stated that the concept of surrender and patience associated with the existence of God.

Surrender in general can be described as accept the fact without any attempt to change (Hakim, 2004). Nygard (1996) described which states that in surrender to God we see devout people wrestling with theological questions that are our own: the relationship between faith and good works, the awareness of power versus a sense of human responsibility, the relationship of theology and our practice of the faith, etc. In surrender, we can see about the individual acceptance of the terms God and accept what is happening to ourself (Ibn Atthailah al-Sakandiri, 2007). The concept of surrender is requires about the understanding that there are forces outside of human control everything and the individual must submit and obey. Because of that, surrender will lead people to encountered all conditions.

Patience in generally can described as a courage to face test and difficulties (Ramayulis, 2009). Explaining the concept of patience according to Mujib (2006) basically deals with the definition of self-control. In the patience was able to bring the concept of a person's character who avoiding from the feelings of fear, worry, anger and chaos. In other condition, patience also directed when individuals are faced with a catastrophe which in the view of Ibn Qayyim al Jawziyya (Mujib, 2006) is described as an attitude that does not feel burdened to disasters and difficulties so that the spirit of the disaster and the difficulties can be traversed with easy. The concept of patience is also aligned to a few dimensions from Hasan (2008). There are dimension of strength and endurance of the soul, dimension of spiritual and moral dimension that related to the result of the research.

In strength and endurance of the soul dimension is a power forward in the spirit that drives to face difficulties in trying. Patience also means having enough mental strength to be always steadfast in adversity and affliction and patience the difficulties to strive for their goals. In spiritual dimension which related to the patient the nature of God, the Almighty patient. Patience is the essence of human effort to reach God according to the nature of the human ability of diverse and limited. The last dimension is moral dimension. This dimension described that patience has a solid moral foundation. The application must be in harmony with the values of God guidance. Patience in seeking blessings of God be applied by man in addressing the problems associated with self, environment, and related to the experience of God's guidance and protection. Value-oriented human benefit patience and uphold human dignity.

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## **Human Learning and Cognition: The relationship between prepositions and cognitive processes**

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### **ABSTRACT**

Indicators of location, movement and space, prepositions are fun and meaningful linguistic expressions. With our human experiences of interacting with the spatio-physical world, it seems that it is easier for us to cognitively translate prepositions into our understanding of the real world. There lies in a strong and close interconnectedness between prepositions and cognitive processes. In this study, the connection between prepositions and cognitive processes will be investigated to explore how some examples in the case studies will attempt to find out how prepositions conceptualize space in the human's mind. Some interesting examples will be illustrated in the discussion to shed the light on the significance of prepositions in understanding how we perceive the world cognitively. It is hoped that this study could draw the audience's attention to, and thus enhance their knowledge of, prepositions, in apprehending the human's mind of interpreting our real world.

Keywords: prepositions, location, movement, space, cognition, spatio-physical world, polysemous, multiple meanings, semantics, pragmatics, cognitive capability, interpretations

### **1. INTRODUCTION**

#### **Semantics versus Pragmatics– running “along” the playground**

It is widely known that a language can be translated into meanings directly. However, the translation of language into meanings is more complex than it is used to be. For prepositions are lexicons that indicate location, movement and space, the way in which human interprets location, movement and space can be more than one single way. Multiple meanings arise when the prepositions serve as vehicles of analyzing the world human beings are in. A typical example is: “Children are running along the playground.” Are they running inside the playground or outside the playground? The pragmatic interpretation of running “along” the playground departs from the semantic function of the preposition “along”. Running along the playground can be interpreted in two ways: inside or outside the playground, as long as the children are running along the playground. The semantic function of the preposition “along” seems to fail its purpose of translating the language into the single meaning of running along the ground. The context in which human beings experience articulates more than one single possibility. The pragmatic function of “along” allows more than one single way of how children run along the playground. Translating prepositions in a sentence into meanings of the world human perceive and experience cognitively is a complicated and complex process of cognition. Prepositions and cognitive processes can be linked in relation to the context human situates that shape lively the interpretation of how human beings interact with the world by language itself.

### **The cat jumped “over” the wall**

Context is so significant in understanding the meaning of words in specific situations. Different contexts could come up when we cognitively imagine the possible scenarios in our mind. The cognitive function of analyzing the contexts in our mind is possibly based on the human experiences of various situations in the world. An example is the polysemous meanings of the preposition “over” in the sentence “The cat jumped over the wall” (Tyler and Evans, p. 9). Possible trajectories come up in the mind could be: first, the cat jumped from the ground to the table; second, the cat jumped on a trampoline; third, the cat jumped across a puddle (Tyler and Evans, p. 9). As long as the cat could jump “over” the wall, different possible trajectories could come up when we cognitively translate the semantic meanings of the lexicons into the pragmatic meanings of the lexicons according to the human’s experience of perceiving how a cat jumped over the wall. The prominent impact of contexts is evident that the context analyzed is based on human’s experience of the spatio-physical world. Cognitive process underlies the different experiences of humans by which to perceive the world. Polysemous meanings evoked by prepositions could lead to possible situations to be cognitively interpreted in relation to the context humans are in.

### **“on” versus “in”**

Although the preposition “on” has synchronic meaning with the preposition “over”, their meanings could be different if we use them to construct sentences of similar meanings. An example that differentiates “on” and “over” can be seen from these two sentences: “The girl walked on the bridge.” “The girl walked over the bridge (Tyler and Evans, p. 72).” By the preposition “on”, the reader/speaker actually means that the trajectory – the girl was physically higher than the bridge, whereas by the preposition “over”, the reader/speaker means that the trajectory – the girl *traversed* the bridge, passing from one side to the other (Tyler and Evans, p. 72). Even though “on” and “over” are similar in meanings, the usage or function of them could be different when we map the sentence meanings onto the situations or the contexts. This is to confirm that context really plays an important role when we translate semantic meanings of the sentence with the prepositions into the visual picture cognitively in our mind for understanding or interpreting the real world. The cognitive power together with the sensitive touch of the preposition allows humans to experience the visual picture imaginatively when humans attempt to compare what they construct in the mind with the real world. Cognitive process of translating a sentence with appropriate prepositions into the construction of the world cognitively is amazingly powerful and stimulating.

### **“on”: conceptualization of space**

#### **– entities are related to each other in the world**

The preposition “on” allows one to conceptualize space that involves entities in the world being related to each other. A daily live example is: “The cup is on the table. (Tyler and Evans, p. 26)” There lies in the spatial relation, the direct contact between the cup and the table. Functionally, the table supports the cup. This conceptualization of space derives from gravity, certain surfaces, physical properties of entities, etc. How the entities are related to each other in the world is part of the cognitive process in conceptualization of space. This is dependent upon human understanding of the world, for example, how gravity can empower the table as an entity to physically support the cup – another entity to the extent that both the table and the cup are related in the world, and their experience of the real world. The conceptualization of space is part of cognitive process to show how one entity is related to another entity in the space they are in.

### **“over”:** possible trajectories

The preposition “over” can imply different trajectories above certain things. The way how one thing is over the other can be interpreted in different ways pragmatically. Examples are: “1) The picture is over the mantel. 2) The hummingbird hovered over the flower. 3) The cloud passed over the city. (Tyler and Evans, p. 9)“ For the first example, there could be an exact location for the picture to go above the mantel. For the second example, the hummingbird can hovered around the flower in circle. For the third example, the cloud could be floating from East to West, or from West to East above the city. These examples show that the preposition “over” not just denotes the meaning – above, but also draws the audience/reader’s attention to the ways in which one thing goes “above” the other thing. Possible trajectories or paths can be opened up, as long as one thing is above another thing. Thus, different contexts can be visualized through the possible trajectories when human beings construct the two things in the mind in order to understand how the real world could possibly interpret in different ways.

### **“over”:** contextualized meanings

The preposition “over” can create different meanings when constructing sentence in different contexts. For example, “The cat’s jump is over.” The preposition creates a completion sense. Another example is: “The game is over. (Tyler and Evans, p. 85)” This denotes that the game is finished. It has to start all over again. One concrete example about preposition “over” in relation to power is: “The old government handed over the newly elected officials (Tyler and Evans, p. 87)”. This demonstrates the concept of power. Power is transferred from the old government to the new elected official. The transfer sense has been conventionalized. A similar example is: “The bank switched the money over to our current account (Tyler and Evans, p. 86).” The implication of transfer is suggested. One more example is: “The relationship endured over the years (Tyler and Evans, p. 77).” The temporal sense of maintaining the relationship over the years is indicated. Another example is: “The article is over the page limit (Tyler and Evans, p. 83).” An established or targeted number of pages is constructed. An interesting example is: “They put a transparent plastic sheet over the painted ceiling of the chapel during repairs (Tyler and Evans, p. 91).” The trajectory – the plastic sheet is physically lower than the landmark – the painted ceiling during repairs. That means the plastic sheet, which is in a lower position, covers the painted ceiling for protection from the damages. All these examples show how the preposition “over” can create different meanings in accordance with different contexts. Context plays a significant role when humans track down the appropriate meanings the preposition “over” create in relation to the contexts.

### **“over” and “above” versus “under” and “below”**

The prepositions “over” and “above” indicates that the trajectory (TR) is higher than the landmark (LM), while the prepositions “under” and “below” indicate that the trajectory (TR) is lower than the landmark (LM). However, “over” and “above” could mean something different. Likewise, “under” and “below” could mean something different. For example, “He (the trajectory) is above me (the landmark) in the company (Tyler and Evans, p. 118).” That means he is superior to me in the company (Tyler and Evans, p. 118). “Above” cannot be replaced my “over” in this sentence. Otherwise, it’d be awkward. Another example is: “He (the trajectory) is below me (landmark) in the law firm (Tyler and Evans, p. 121).” The inferior sense is evoked (Tyler and Evans, p. 121). The sentence means he is in an inferior position is the law firm. Similarly, the preposition “below” cannot be replaced by the preposition “under” in this sentence. Otherwise, it’d be awkward. “Over” and

“above” could mean going up and more along the vertical axis, while “under” and “below” could mean going down and less along the vertical axis; however, each of them may not be interchangeable according to the given contexts, as shown in the examples above.

### **The polysemous preposition “in”**

The preposition “in” is polysemous. It could yield different meanings in different contexts. For example, the preposition “in” could indicate partial inclusion. Examples are “the singer in the pants”, “the worker in the hat”, “the flower is in the vase (Tyler and Evans, p. 182).” Interestingly, the state sense is created through the preposition “in” (Tyler and Evans, p. 184). Examples are: “The infant (the trajectory) is sitting on the parent’s lap, enclosed in the parent’s arms (the landmark).”; “He is in prison (Tyler and Evans, p. 184).” One more interesting meaning of the preposition “in” is the shape as a boundary sense. The physical shape of an entity has a boundary that limits its shape in certain forms, like circles, triangles, and rectangles. For example, “they put chairs in a circle (Tyler and Evans, p. 84).” Another example is “Can you get in line please? (Tyler and Evans, p. 84)” Also, the blockage sense could be constituted by the preposition “in” (Tyler and Evans, p. 84.) For example, “she had blocked me in. (Tyler and Evans, p. 84).” Other than this, reflexivity could be created (Tyler and Evans, p. 84). Examples are: “The walls of the sandcastle fell in”, “The house carved in” (Tyler and Evans, p. 84). One striking phenomenon is that there could be a clear distinction between “in” and “into” (Tyler and Evans, p. 200). For example, “He ran in the room.” That means he ran within the confines of the room. In contrast, “He ran into the room” means that he ran from outside the room and oriented towards the room (Tyler and Evans, p. 200). He ran from outside to inside the room that he was located within the room now. The polysemous nature of the preposition “in” could constitute some meanings in meaningful ways in the contexts. These interesting examples have been selected to strike the readers to grasp the unique multiple meanings the preposition “in” can create in our everyday life.

### **The multiple meanings of the preposition “through”**

#### **- Tied to our everyday life, especially when locating a place**

The preposition “through” can have more than one meaning. The first possible meaning of the preposition “through” is on the other side of the scene. For example, “The office is located just through that door (Tyler and Evans, p. 211).” This means that from the other side of the door we could see the office. The second and third possible meanings of the preposition “through” are extended action and completion. For example, “He reads through the book” (Tyler and Evans, p. 211) means that his action of reading has been extended that the process of reading has been emphasized, whereas the preposition “through” in the sentence “He is through with the book” (Tyler and Evans, p. 211) means that reading has been completed. The completion sense is created. Although the two sentences “He reads through the book” and “He is through with the book” look similar, the sentence “He reads through the book” gives a sense of an extended action while the sentence “He is through with the book” gives a completion sense (Tyler and Evans, p. 211). Also, the preposition “through” can give the means sense. For example, “He had to find the path through the jungle” (Tyler and Evans, p. 211). The jungle is the means through which he could find the path. All these multiple meanings of the preposition “through” have to be grasped through the contexts. These examples are very interesting, as we need to guess the possible meanings that are related to our everyday life, especially when we need to locate the situation through the preposition “through”.

## 2. CONCLUSION

To conclude, the English prepositions enable us to conceptualize space. In particular, the polysemous nature of some English prepositions gives rise to ambiguity that one has to map between meanings and forms despite of “many-to-one” meanings. The conceptualization of space through the English preposition is a ‘product of how we **human beings experience and interact with spatial physical world we exhibit**’ (Tyler and Evans, p. 215). Therefore, I finally agree the conclusion Tyler and Evans draw in their book *The Semantics of English prepositions: Spatial Scene, Embodied Meaning and Conclusion* that

‘what we experience is crucially *meditated* by the precise nature of our bodies, our unique neuro-anatomical architecture and our purposeful actions of the world.’ (Tyler and Evans, p. 215)

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**Concept of Posttraumatic Growth of People Affected Merapi  
Eruption in 2010 : A qualitative study to people of Krinjing Village,  
Indonesia**

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**ABSTRACT**

Research related to the impact of disasters in general, always focusing on the negative impact of disasters on health conditions and welfare of individuals affected by disaster. Nevertheless, many research results indicate a positive impact from the disaster that implied one's perspective on their world and life, coping mechanisms and growth after the disaster. Some concepts related to the positive impact of the disaster were the sense of coherence, resiliency, hardiness and posttraumatic growth. From the literature review there were some research on this topic has been done, that but research in developing countries is still less done, whereas in that countries many disaster happened. The concept developed from western countries, which is from research concluded the concept generally occurs in every culture, although there are other factors specific to culture that still need to be explored further. Based on this knowledge gaps there is a need to be made to make research on posttraumatic growth in Indonesia as a developing country with an increasing frequency of disasters recently. Objective of this research is to explore experiences of people affected disaster in Indonesia and concept of posttraumatic growth after disaster. Qualitative methods with focus group discussion and in-depth interview were the methods to explore individual and community experience disaster and posttraumatic growth after disaster. Result of this study is shown that the concept is applied more in community level rather than individual level. In this study, four dimensions of PTG are found. Those dimensions are new possibilities, relating to others, appreciation of life and spiritual changes. The concept of growth is very general that might be applied in different form depend on the situational context. General concept of PTG might be not captured in some domains that appear in specific culture. In this research one domain of PG that is not that might be not capture by PTG is feeling of guilty (related to religion concept of sins).

Keywords: posttraumatic growth, disaster, psychology, community, mental health

**1. INTRODUCTION**

Development in the world of psychology that leads to positive psychology, give rise to research and practice on stress and traumatic event that not only focuses on negative impacts but also on the positive impact. It is well known that exposure to stressful and traumatic events can lead to severe psychological consequences.

One of the theoretical concepts that try to assess the positive impact of traumatic event is the concept of posttraumatic growth, which is described further in the

psychosocial framework (Joseph & Linley, 2008). These frameworks try to integrate medical perspective on posttraumatic stress and positive psychology on posttraumatic growth. It is not possible to fully understand recovery from posttraumatic stress without awareness that for some people this involves positive changes beyond their previous levels of functioning and well-being; and vice versa, it is not possible to understand fully understand growth following adversity without knowledge of the traumatic distress that serves as the trigger for such change (Joseph & Linley, 2008). The psychosocial framework emphasizes the role of social context, social support and social capital in influencing how the person moves through the cycle of appraisals, emotional states and coping (Joseph & Linley, 2008). Individual response to traumatic events and its impact cannot be separated from socio-cultural influences and the environment in which one lives. Culture influences individual and collective experience of trauma at many levels: the perception and interpretation of events as threatening or traumatic; modes of expressing and explaining distress; coping responses and adaptation; pattern of help-seeking and treatment response (Kirmayer et al., 2010). Therefore the social and cultural setting gives meaning to traumatic event itself that influence how individuals, families and communities make sense of their experiences.

To date, very small number of research has been undertake to investigate PTG in Asian survivors of natural disaster (Tang, 2007). The research on posttraumatic growth in setting of disaster will be very useful regarding knowledge from other research about importance to understand individual, community and social context of people affected by disaster.

Two main conclusion from previous research found that positive impact of disaster regarding posttraumatic growth has both universal and culture specific characteristic (Weiss & Berger, 2010). Posttraumatic growth is a complex concept, which has universality of the experience across the globe. Although, the concept was developed from western framework and different cultures may have different specific characteristic. Thus in different cultures, growth may include different aspects and general experience of growth and the specific features vary, as do related condition (Weiss & Berger, 2010). Qualitative research in the field has been useful in identifying aspects of posttraumatic growth that are unique to particular culture (Splevins, Cohen, Bowley, & Joseph, 2010; Weiss & Berger, 2010). Research on this field will be benefit not only in individual level but also for the community exposed to disaster and general population in terms of intervention and preparation for the future.

Research related to the experience after a disaster, especially posttraumatic growth, largely conducted quantitatively by using Posttraumatic Growth Questionnaire (PTGI) developed by Richard G. Tedeschi and Lawrence G. Calhoun (Tedeschi & Calhoun, 1996). Quantitative measurement in general is a form of top-down measurement, and attempts to apply the concept of posttraumatic growth in a variety of different cultural contexts (Splevins, Cohen, Bowley, & Joseph, 2010). Theoretical concept derived from a particular culture, especially individualistic western culture, and then tried to be applied in different cultures, with various adaptations made. The tendency of cultural bias is compelling, not only in terms of differences in language used, but also in terms of defining and implementing the concept in different daily behaviors (Splevins, Cohen, Bowley, & Joseph, 2010; Weiss & Berger, 2010). In general, the universality of the concept of posttraumatic growth following adversity is acceptable despite the development of PTG concepts coming from the individualistic western culture, which can lead to cultural bias when applied to the collectivist eastern culture. One of the cultural biases can be seen from the

development PTGI as measuring instrument, used in research on the various cultural (Splevins, Cohen, & Stephen Bowley, 2010). As mentioned previously, research on posttraumatic more use of quantitative methods by relying on PTGI as a measurement tool. Those studies are top down approach, when the use of PTGI in various cultural settings is trying to adjust with each culture but there is still a possibility of cultural insensitivity. In this case there are possibilities that PTGI may not reflect the overall experiences of PTG in different cultures (Splevins, Cohen, Stephen, & Bowley, 2010).

## **2. METHODS**

This research was conducted in Krinjing Village, in Magelang District, Central Java Province, Indonesia. Krinjing Village is one of the villages that directly affected by volcanic eruption of mount Merapi in October – November 2010. This village is located in the western part of Merapi, 5.2 kilometers from the summit. This study employed qualitative research method with a phenomenology approach, with semi-structure interview and group discussion as data collection methods. The study population included men and women who were affected by Mount Merapi Eruption in 2010. Male and female with different background in age, education and religion were selected in order to provide the opportunity to share different experiences and reflection in the eruption situation. The focus group discussions were conducted to develop interview content, inclusion criteria for interview participant and in ongoing discussions in analyzing the result.

A purposive sampling of 5 females and 11 males were interviewed. All participants were between the ages of 18 – 72 years. Four focus group discussions were conducted in groups of 5: group of elderly people, group of adult male, group of adult female, and group of young people; with the total participation of 21 people. Participants along with their various background and experiences were purposively selected based on information that gathered from the head of village, community leaders, focus group discussion and other participants.

## **3. RESULT**

Informants in the study stated that they feel both the positive and negative impacts after Merapi eruption. The impacts were felt in many areas of life, including the social and emotional consequences, thinking process, economy, facilities in the village, and future planning.

Negative impacts, particularly associated with emotions and trauma are almost experienced by each individual in every disaster. Negative impacts in terms of emotion and trauma are generally associated with individual responses to catastrophic events, which are generally perceived at the time of emergency.

While negative impacts generally associated with social and emotional aspects, the positive consequences perceived by the informants also revolve around the behavior, activity or situation that leads to positive social and emotional conditions. Almost all informants admit that there were improvements in the religious activity. Frequency of religious activities increase and they feel closer to God. Religious activities and emotional closeness provide emotional comfort and reduce anxiety and fear. This religiosity is the impact of explanatory models of disasters as a reprimand or a warning of God's will and bad behavior by human as form of infringement of religion

From description above, we also can see that changes in religiosity as a way of coping with situation after disaster. This finding also have same result with PTG research in Japan that found there is potentially unique characteristic of Japanese that increased self-awareness of one's weaknesses or limitations (Weiss & Berger, 2010). In this research people realized their sin as their weakness and try to compensate it by changing their religiosity and behavior. In addition to the positive impact of the social aspects of emotion, the Merapi eruption also give benefits for Krinjing village in terms of development of the village. Aid programs from the government and institutions or individuals shows the amount of attention to the events experienced by villagers. Aid and assistance given to the village of Krinjing improve facilities and welfare. Throughout the years, Krinjing is categorized as one of underdeveloped village in Magelang district. This condition have changed since 2010 eruption, as Krinjing is more noticed by the government to improve the construction of public facilities and the welfare of villagers.

Other positive consequences expressed by most informants is the community working spirit and in continuing their lives after the disaster. Based on explanation above, this condition might be related to consciousness to bounce back from adverse conditions and does not remain trapped in a difficult situation. In addition, one of the principles in Javanese society is to be independent and not depending on other people except their family, especially in difficult times. Javanese community also believe that life is like a turning wheel, sometimes people can be placed changeable in bottom or at the top of the wheel. This view makes Javanese community easier to accept and adjust to any circumstances in their lives, including being happy in a difficult situation.

Passion for work is particularly important in reworking damaged agricultural land affected by eruption ashes. Agriculture was the main livelihood in the village of Krinjing, therefore re-processing agricultural land is one of the things should be done by Krinjing villagers. Furthermore, Merapi eruption in 2010, according to most informants gave positive consequences in social life of Krinjing. Value of unity and mutual assistance are the values that are already in the community, grew stronger and help the community in addressing post-disaster situation. Krinjing villagers worked together with each other in repairing damaged facilities including houses and agricultural land.

One of topic that was discussed in focus group with female informants is how living in evacuation camp makes them become more concerned about other people. Their sense of caring for others grew because they felt the difficulty of life in exile and wanted to contribute to others according to their ability.

Sense of community and care for others by the majority of informants are also felt stronger. Sense of kinship at the time of eruption made villagers understand how to deal with this difficult situation together. It was increasingly felt during the time in evacuation camps where they experience life together and being treated as refugees. No difference in treatment between fellow refugees make a person more respectful for others because they felt there were no difference due to social and economic status.

Future planning that had probably never been thought by villagers according to some informants became their concern of its importance after 2010 Merapi eruption. This was related to the anticipation of possible increasing severity in future eruption. Regardless of what happens in rural communities of Krinjing, either positive or

negative consequences, all informants stated that they felt grateful for what they experienced. The informants felt grateful that they still survived after 2010 Merapi eruption, although many of them suffer material losses. They felt grateful for the events of the eruption because it provides an opportunity to improve them to become a better person, closer to God and be religious person. The informants are also grateful for the close relationship with the family and the villagers, in helping and caring for each other during a difficult situation. Gratitude is related to religiosity and spirituality emerging as one aspect of posttraumatic growth. Cultural background and rural communities that tend to the religious related to religion and traditional beliefs that are believed, makes one feel grateful for their life.

#### **4. DISCUSSION**

The result of this study indicates process of growth or referred in the literature as posttraumatic growth (Calhoun & Tedeschi, 2006; RG Tedeschi & L. Calhoun, 2004; Weiss & Berger, 2010). Posttraumatic Growth (PTG) is experience of positive changes that resulted from the struggle against crisis of life (RG Tedeschi and LG Calhoun, 2004). There are five domains of PTG: personal strength, new possibilities, Relating to others, appreciation of life, and spiritual changes (Calhoun & Tedeschi, 2006). In this study, four dimensions of PTG are found. Those dimensions are new possibilities, relating to others, appreciation of life and spiritual changes.

The dimension of possibilities can be seen from the openness of new possibilities in terms of the economy. Before 2010 Merapi eruption, Krinjing villagers depend on agriculture as the main livelihood. After the eruption, with the help of community organizations and non-local institutions they started to do other activities that can provide extra income. The eruption seemed to be a kind of momentum for the community members to reflect on what income generated activities they wanted to be involved in. For example, one of the existing programs is a group that sought to raise livestock, such as cows and goats, as business. Assistance is provided in the form of capital to purchase livestock and share knowledge about how to raise the livestock. This group also made use of livestock manure to be used as organic fertilizer. Increased sense of togetherness among the villagers and concern for others is a form of dimension relating to others. Value of unity and mutual assistance is essentially the value that is already owned by the village community since the beginning of Krinjing village. But after the Merapi eruption, these values are more strongly felt and reflected in their daily behavior. The values of togetherness and mutual help are seen at the time they returned from the evacuation camp and started to rearrange their life. Krinjing village community members help each other to repair houses and villages facilities damaged by the eruption. They also help each other on farming activities, including planting and harvesting. Sense of caring for each other seemed to be felt more strongly.

Respect for life expressed by informants' sense of gratitude, related for being alive after the eruption. Moreover, gratitude is also associated with a dimension of spirituality. In this study it was found that there is an increasing religiosity of Krinjing village. Based on the interviews, most of the informants stated there was an increased religiosity that might be seen from the activity of religious routines. Before the eruption, some villagers even did not know how to pray, but now they begin to learn how to worship according to religious affiliation. Although religiosity is not necessarily the same as spirituality, but sense of gratitude and having faith in God, show an increase in spirituality after disaster. The relationship between appreciation of life dimensions and spirituality is also found in PTG research in Japan (Weiss &

Berger, 2010), which showed the perception of gratefulness, is embodied in spirituality or religiosity (Weiss & Berger, 2010). According to a study by Kusaka et al (1997) about the positive impact of Great Hanshin earthquake in Japan, it is concluded that there were positive changes, especially regarding the importance of the relationship between people (Weiss & Berger, 2010). Based on explanation above we can conclude that the results of this study illustrate the evidence of PTG dimensions.

However, the concept of growth is very general that might be applied in different form depend on the situational context General concept of PTG might be not captured in some domains that appear in specific culture. In this research one domain of PG that is not that might be not capture by PTG is feeling of guilty (because of sins that people did). Despite this guilty feeling very related to changes of religious activity as a coping way through difficult situation. Another thing that possibly did not explained by the concept of PTG in this research was about feeling of *pasrah*, a term in Bahasa Indonesia that might be translated as acceptance. But this acceptance was after people put some effort to fight for their problem. This term usually also related to sense of gratitude shown after people try to solve their problems but their capabilities might not meet the solution. In this situation sense of acceptance and gratitude of every situation will be shown by this people.

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## Moral Reasoning of Filipino Children in Conflict with the Law

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### **ABSTRACT**

This study identifies how children in conflict with the law detained in a youth rehabilitation center justify the crimes they have committed. Interviews conducted in Filipino were done to 40 participants. Poverty conditions of the participants, pressure from gangs and feelings of injustice given by the person who was victimized were given as justification for committing crimes.

Keywords: moral reasoning, children in conflict with the law, justifications on crimes committed

### **1. INTRODUCTION**

Children in conflict with the law (CICL) commit crimes. In the latest Department of Social Welfare and Development survey, there are 6,991 CICL in juvenile centers serving their sentences (Cabilao, 2004). In 2005, The United Nations Children's Emergency Fund reported to have an estimate of 4,000 CICL in detention centers nationwide (Dolan, 2004).

Whether the offense is petty or grave, there are reasons behind each offense. An offender uses moral reasoning as a justification for committing crimes. It is defined as individual or collective practical reasoning about what one ought to do, given situations that involve morality (Gert, 1998). In this research, moral reasoning is used to probe on the reasons why crimes were committed. On the other hand, moral judgment is defined as a detailed process of reasoning and involves justification of the rightness and wrongness of a particular act and is sanctioned by one's conscience and ethical act (Kohlberg and Colby, 1987). It involves the creation of consistent rules and higher-ordered thinking skills that justify actions (Nado, Kelly and Stich, 2006). Since most of the participants of the study barely finished elementary, the researcher focused on their moral reasoning.

Moral reasoning can be influenced by culture (Turiel, 1994, Hauser, 2005), society (Turiel, 1994), parental norms (Grusec and Goodnow, 1994), and peer relationships (Kruger, 1992). Kohlberg assumed that moral reasoning plays a central role in moral action (Diver-Stamnes and Thomas, 1995). It provides unity to the many complex processes such as judgment and decisions (Brendixen, Schraw, and Dunckle, 1998). This study identifies how CICL use moral reasoning vis-à-vis the crimes they have committed. Through this study, educators can identify curricular inputs for values education among CICL.

### **Research Participants**

Participants of the study are CICL detained in a youth rehabilitation center that gives special education services. The name of the center and the real identity of the



participants are withheld for purposes of confidentiality. The data presented in this study is based on interviews done from Feb 1-10 2011. Initially 148 CICL were interviewed about their concerns and desired educational programs. Of the 148 CICL, 40 participants were chosen. There were two females and 38 males who participated in the study. The undistributed sample in terms of gender can be attributed to the fact that there are more male offenders than females (Corrado, Odgers & Cohen, 2000; Cabilao, 2004; Fields & Abrams, 2010). These participants agreed to talk about their offenses; are conversant in Filipino and have admitted to do or participate in the crimes being accused to them. In the discussion, code names were assigned to them for purposes of confidentiality.

### Demographic Profile

The research participants' ages, offenses and parental information are discussed in this section. The participants' ages range from 15 to 21 years old. Participants who are above 18 years old have been committed to the center at a younger age. Their prolonged stay in the Center is attributed to the delays in court procedures. Case hearing of the crimes of drug peddling, homicide and murder take a longer time to examine than cases of petty theft.

**Offenses Committed.** The Center classifies offenses in six categories as there are quite a number of cases charged. Table 1 presents the offenses committed by the research participants.

Table 1. Offenses Committed

Offense	Frequency	%
Crimes Against Property	22	55
Crimes Against Person	7	18
Crimes on Drugs	7	18
Crimes Against Chastity	2	5
Prohibition under special law	2	5
Total	40	100

Offenses that involve stealing such as theft, robbery and hold-up are classified under *crimes against property*. Offenses that involve assault, murder, homicide and physical injury are classified as *crimes against persons*. Possession, usage and peddling of drugs such as marijuana, shabu and cocaine are *drug-related violations*. Offenses that involve carrying of deadly weapons and firearms are included under *prohibition under special law*.

The other participants being accused of crimes against persons were involved in gang wars. Gangs are commonly known as troublesome youth groups (Decker, Van Gemert & Pyrooz, 2009; Feinstein, 2003). In the Philippines, gangs are involved in different crimes such as drugs, kidnapping, carnapping and organized theft. Different gangs also have the tendency to fight against each other. In fact, adult jail cells are organized based on gang membership

### Research Methodology

This research is descriptive in nature. Interviews in Filipino were conducted. Field notes were written as the Center does not allow any form of electronic recording. The responses written were read to the participants to make sure that what was

transcribed is correct. Verbatim responses and themes of their responses were identified in the discussion of results. All verbatim responses in Filipino have corresponding English translations.

### **Concepts about morality vis-à-vis crime committed**

Different concepts of morality vis-à-vis the crimes committed were given by the participants of the study. Some of the participants would justify their offenses because of poverty. Others would do offenses due to gang affinity or ill-feelings towards their enemies.

**On Crimes Against Property.** All of the participants said that they steal from people because they have to meet a need. These needs are either to sustain a vice such as drug abuse to earning to meet family expenses. Those who are members of gangs attribute their offense to *pakikisama* (comradship).

Some participants of the study are forced to steal as they are the family's breadwinner. In this case, both parents are unemployed. Jose, 17, narrates, "I am the one who works in the family so I got tempted to steal cellphones. I earn money fast. Before, I thought it was the correct thing to do." Ljzendoorn and Zwart-Woudstra's (1995) study concludes that adolescents who come from very poor families that are forced to work justify their theft to family circumstances. For them, poverty makes their offenses legitimate. Theft and other forms of stealing are usually done by people who have incomes at the poverty range and this is the most common form of law violation (Gebremikael, 2003).

Those with snatching offenses said that they do not carry deadly weapons. They just grab things from people and then run as fast as they can in order to escape. Jonathan, 17, narrates, "Our group engages in snatching only. I just need money. I do not bring sharp weapons as I do not want to hurt anyone. I only need money. It is worse to hurt or kill someone. I often steal from men as they do not scream and they do not easily notice that something has already been stolen from them. When I got caught, I fell in ill-fate as I was mobbed. The woman who I stole her bag shouted. It is bad luck to steal from them as they screech and people quickly hear their voices. My conscience bothers me always as I hear their voices often in my mind or I have nightmares on it." People who are engaged in petty theft do not have the intention of using force, unless provoked (Ngale, 2009). In this example, Jonathan and his peer group have no intentions of hurting anyone as they find it worse to do so. It can also be noted that the concept of *conscience* is present. Youth offenders also have moments wherein they contemplate on their actions and develop some sort of guilt (Brusten, Stams & Gibbs, 2010). In cases wherein the victim was hurt, feelings of remorse also haunt the offender (Dolan, 2004). His response also suggests that he believes in some superstitions in snatching.

Like most of those accused of snatching interviewed by the researcher, Jonathan believes that it is bad luck (*malas*) to steal from a woman because she is deemed to be the weaker sex. Enoch's (2010) theory on *moral luck*, states that offenders feel that their offense is worse when they have succeeded in committing it on someone who is deemed to be weaker. For the participants of the study, they all deem it bad luck to steal from a person who is weak.

**Gang affinity.** In the Philippines, gangs are responsible for many crimes. Ricardo 17, *Original Batang Quiapo Gang* member said "I am always with my gang. They help

me with my problems and I love them more than my family. I do not regret joining even if they are the reason of my detention.”

John, 17, a *Sputnik Gang* member said, ” Like the tattoos that I have on my body, Sputnik is in my blood. I will not leave them until death.” In fact, he confessed to have joined gang wars even if his life was on the line. He would carry homemade guns (*paltik*) and sharp objects such as knives and ice picks whenever his gang was engaged in riots. Other CIGL accused of murder or homicide have allegedly killed a member of the opposing fraternity.

**On Crimes Against Persons.** Male and female offenders who have committed murder have different ways of justifying their offense. The participants in the study are accused of murder because they have allegedly planned on how they would kill their victims.

Gilligan (1998) said that females have an ethic of care orientation and males adopt an ethic of justice orientation as females want to preserve relations and maintain harmony (Shumaker & Heckel, 2007). Females demonstrate care when it comes to making moral decisions whereas males are concerned with having justice served.

Gang members can commit murder for the sake of their group. All the male respondents felt that they were insulted by the persons that they killed. Two of the respondents committed murder because of what was announced in social media and heated arguments when they were online-gaming in a computer shop. Frederick, 18, said that, “The person I killed was really an enemy. He was also an enemy of my gang. He belittles us. In order to kill him, we studied his moves daily. We secretly followed him. On the day I killed him, we waited for him outside the computer shop. I stabbed him with an ice pick. He won’t insult my gang anymore! However, I surrendered to the authorities because my conscience was bothering me. As I surrendered, never did I think that I would be imprisoned.”

On the other hand, the only female participant in the study who is accused of murder did not think of herself being violated when she committed the offense. She told the researcher that when she was planning the offense, she thought of the young girls whose lives were destroyed because of pimping.

Christine 16, said, “It was fine with me to kill the person selling me to foreigners in the flesh trade. She always pimped me to foreigners even if I did not like it. I thought of killing her when I saw her pimping other young children. It would be all right if I were the only victim. I stabbed her with an ice pick until she died. I was thinking then that I have avenged all her victims. I was thinking then that if she were to live, there would be more children who would be victimized. I do not want her to destroy the lives of young girls.”

Women are said to demonstrate a more caring attitude toward moral problem solving (Walker, 1989). Christine’s case demonstrates that she had a protective instinct that involves care among the younger girls. She confided that she felt that these girls were like her sisters. Women also reason out morally through contextualizing relationships that are involved in every moral issue (Keefer, 1993).

**On Crimes Against Chastity.** Though rape has been re-classified in Republic Act 8353 under crimes against persons, the Center still classifies it under Crimes Against Chastity to distinguish the fact that it is a sex offense. Republic Act 8353 or

the Anti-Rape Law of the Philippines defines rape as an offense done by a man who has carnal knowledge of a woman under any of the following circumstances:” a. through force, threat or intimidation; b. When the offended party is deprived of reason or otherwise unconscious; by means of fraudulent machination or grave abuse of authority and d. when the offended party is under twelve years of age or is demented...” (Philippine Congress, 1997).

The participants who are accused of rape say that being in a romantic relationship justifies them having sex with their partners. Raynar, 15, argued that, “My girlfriend and I love each other. She is also fifteen years old. It is natural for lovers to have sex. She also permitted to what happened.” Apparently, based on records, Raynar coerced his girlfriend to have sex with him, making the parents of his victim to file charges against him.

Some men are confused with sexual consent cues made by women (Workman and Freeburg, 1999). In the case of Raynar, he thinks that being in a romantic relationship legitimizes having sex with his girlfriend. Raynar reiterated that his girlfriend had sex with him because she loved him. Some women also may not think of an offense as rape if it involved their boyfriends (Kahn, Jackson, Kully, Badger and Halvorsen, 2003).

**On Drug Abuse.** Participants of the study who have cases on drugs reported to have relatives involved with drug peddling who have served as negative role models. Aldrin, 17 said that both his parents are in jail. His father is in the National Penitentiary in Muntinlupa City and his mother is in the Women’s Correctional Institution in Mandaluyong City. Both his parents are accused of drug peddling.

He said, “I saw my parents use and sell drugs. They did not force me to use drugs. When I became an adolescent, I thought of using drugs. In fact, my parents did not want me to use drugs. I felt good with shabu. I continually abused drugs secretly.” Children who have parents as negative role models are more likely to imitate the negative behavior presented to them (Flouri, 2004).

Elaine, 16, said that she knew that peddling drugs is wrong. However, her live-in partner engages in such act. As a supportive partner, she wanted to be of help. “I know that peddling drugs is wrong. However, I want to help my live-in partner. When there was a police operation, he was the only one who was supposed to get caught. But I knew that we had a relationship. Both of us did it. I also made sure that I got caught.” Again, this claim supports Gilligan’s (1988) theory on moral reasoning that females value relationships when making moral decisions.

### **Feelings of Remorse**

All the participants, except for some who are being accused of murder and rape, have feelings of remorse present. Those being accused of snatching and theft feel guilty of what they have committed. In fact, as discussed earlier, some of them have nightmares of their victims screaming.

Research has shown that offenders who lack remorse are most likely to commit crimes repetitively (Fialkov, 2009). Informal dialogs with the social workers also reveal that there are some CICL who are recidivists. CICL who are recidivists commit graver offenses for the second time they are caught. Sometimes, they commit the same offense even if they become adults already and are penalized in the city jail.

## Conclusions

Poverty conditions of the participants, pressure from gangs and feelings of injustice given by the person who was victimized were given as justification for committing crimes. Feelings of remorse were felt if they perceive that the persons victimized were physically frail but were absent to those who have committed crimes against affluent people. Male offenders would not like to victimize females because they believed that they belong to the weaker sex and that they are bothered by their conscience whenever they recall the event. Gang affinity was seen as a form of comradeship (*pakikisama*) despite the fact that gangs are engaged in theft and drugs.

The research findings support Carol Gilligan's (1988) differences in moral reasoning among males and females. In instances of murder for example, male participants justify their offenses by stating that it is justice to kill those who did them wrong or have hurt their ego. For female participants, murder is committed because they perceive their victims are perpetrators of crimes who would continue to do injustice to other people. Murdering them would mean an end to injustice to other people.

Participants would also attribute their being caught to bad luck (locally termed as *malas*) and not to violating the law. They think that they can continually commit offenses, provided that they do not fall in ill-fate.

Participants feel that corrective justice should only be given to those who are not poor or to those who have really committed offenses. For those accused of minor crimes, education is viewed as a mechanism for them to land better jobs in the future. For those accused of major crimes and are recidivists, they believe that engaging in crime is more profitable financially than formal schooling.

## Recommendations

It is recommended that CICL be taught values education through addressing higher ordered thinking skills in the area of moral reasoning. Ill-fate and not violating the law is seen as the reason behind being penalized. In this case, they should be trained on how to make socially-appropriate decisions and be taught that there are consequences to actions that violate the law. They should be educated on the value of work and engage in productive activities that would help them have sources of livelihood in order to avoid recidivism.

It is obvious that poverty propels the participants who are accused of crimes against property to violate the law. With this, skills training and jobs have to be provided for by the local government units in order to minimize this problem.

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# Psychology II

14:45-16:15, December 15, 2012(Room 2)

Session Chair: *Anna Toom*

**166: The Influence of Behavior Modification Training towards the Enhancement of Competition in Dealing with Pre-school Student's Troubled Behavior among Indonesian Play Group and Kindergarten Teachers**

*Ruth Vanny Feronica Panggabean*      *Airlangga University*

*Herdina Indrijati*      *Airlangga University*

**169: Integrative Education for the Twenty First Century: Teaching Psychology Using Literature and Informational Technologies**

*Anna Toom*

*Touro College*

**192: A Study on Yonisomanasikarn Thinking of First Year Students**

*Varangkana Somanandana*      *Burapa University*

*Surin Suthithatip*      *Burapa University*

*Doldao Purananon*      *Burapa University*

**196: A Study of Coping Behaviors in Attempted Suicidal Risk**

*Wanpen Wanaporn*      *Burapha University*

*Surin Suthithatip*      *Burapha University*

**239: Exploring the Use of Vignettes to Facilitate and Assess Learning**

*Susanna Wai Ching Lai-Yeung*

*The Open University of Hong Kong*

**The Influence of Behaviour Modification Training towards the  
Enhancement of Competition in Dealing with Pre-school  
Student's Troubled Behaviour among Indonesian  
Play Group and Kindergarten Teachers**

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**ABSTRACT**

Pre-school students with troubled behaviour need to have good and thorough intervention. Therefore, in dealing with this, competent teacher is primarily needed. The research subjects are Indonesian teachers from PG (Play Group)/KG (Kinder Garten) who have issue in dealing with pre-school student behaviour. Researcher has given a questionnaire in order to diagnose if any problem occurs from the teacher's competency. Problems that came up are the lack of knowledge and skill of the teachers in dealing with troubled behaviour students. This research aims to give intervention to this problem using behaviour modification techniques. Hence, the research subjects were given an intervention in the form of modification behaviour training. The aim of the training is to enhance the teachers' competency, in both knowledge and skill level of how to deal with troubled behaviour using behavior modification techniques. The obtaining of data and information in this research is using achievement test, observation, interview, and teacher assignment sheet.

Using Wilcoxon Signed Rank analysis, it was found that behaviour modification training is able to enhance teachers' competency in dealing with troubled behaviour in pre-school students. The succeed of the research is caused by the teachers' enthusiasm in participating the training and commitment in doing the real life case in their classes.

Keywords: Teacher's Competency, Behaviour Modification, Training, Preschool Teacher, Preschool Student

## 1. INTRODUCTION

Nowadays, the Indonesian government, especially the National Department of Education is promoting the existence of early childhood education services or better known as PAUD (Pendidikan Anak Usia Dini). Directorate PPAUD (2011) states that currently, the early childhood education has become "National Public Movement", so in daily level, it is now common to talk about the importance of early childhood education for the future of the children. Comparing to the development of model and type of early childhood education in another developed countries, Indonesia's system has a special uniqueness which is different from them. If early childhood education in overseas is generally only divided into 2 (two) types which are Kindergarten or Play



Group and Day Care, in Indonesia's early childhood education, it is divided into 4 (four) types which are Kindergarten, Play Group, Day Care, and PAUD (a bit similar with play group) (Directorate PPAUD, 2011).

However, in the midst of educational services for early childhood, there was another conversation that was highlighted by the observers of the child at this time about the existence of problematic behaviour indicated by preschoolers (Tiano & McNeil, 2006). Mangum (2004) states that 120 out of 300 preschool students are detected of having a problem in their social, emotional, and behaviour developments. The troubled behaviour displayed in the form of biting, aggression, unfocused, temper tantrums, socially isolated, and a delay in the development of the child.

Several teachers at one of the school in Surabaya (East Java) are also facing so many behavioural problems of preschool children each year, such as: passive children, active children, out of focus children, hyperactive children, slow to adapt children, less independent children, undisciplined children, irresponsible children, slow to speak children, and so on. That varieties of children behaviour problems mentioned above often make the educators be overwhelmed in dealing with the children. Teachers are not able to handle behavioural problems in children because they don't know what the right interventions in addressing the problem behaviour in children are and also the lack of teachers' competence in dealing with such students (the results come up from the questionnaire). As we known, as a key element in the education system, teachers play a very important role in the creation of a quality or the grade of the school. Slavin (1997, in Dad, Ali Janjua, Shahzad, & Khan, 2010) said that qualified teachers would be able to create a system of qualified education as well. Therefore, the competence of teachers is needed to support the education system, particularly at school.

Majid (2005) mentions that the competence of every teacher, either through teaching experience or formal education, would demonstrate the quality of the teacher in teaching the learners. A competence will be realized in the form of the acquisition of knowledge and professionalism in carrying out its function as a teacher. Therefore, the Indonesian government issued Government Regulation Number 19 year 2005 about National Education Standard that teachers must have a minimum academic qualification diploma four (D-IV) or degree (S1); background of higher education in the field of early childhood education, education, or psychology, and has a professional certificate teacher for early childhood / kindergarten. However, according to the Data Center for Education Statistics in 2009/2010, it was stated that teachers of AUD (Early Childhood), particularly kindergarten teacher in Indonesia, amounting to 212,293 people, only (11.05%) or 23,456 people who already had minimum academic qualification degree (S1) from a variety of disciplines (Pusat D. Therefore, it can be concluded that in terms of quality (educational qualification), most kindergarten teachers in Indonesia are not yet qualified. The same with the school investigated in this research, where there are 10 teachers who have different educational backgrounds : 2 teachers are from senior high school, three teachers are from D2 (majoring in teacher), 2 teachers are from S1 (majoring in teacher), 2 teachers have educational background in S1 Psychology, and 1 teacher's educational background in S1 (other majoring). It can be concluded that there are many teachers in this school who still do not have the educational qualifications required by the government's standard.

Furthermore, this is also evidenced by the statement from Shawwal Gultom, as

Chairman of Human Resource Development and Education Quality Assurance of Education, Ministry of Education and Culture (in "Hasil Tes Uji Kompetensi Guru Rendah Tidak Sampai 50% Soal Bisa Dijawab", 2012), that the current competence of teachers is also problematic. When a test conducted towards teachers, on average, less than 50 percent of the questions could be done by them. Initial Competency Test Result for the teachers which was conducted in February 2012 showed that the highest value that could be achieved by the national teachers is 97, while the lowest value achieved was 1. Therefore, the national average teacher competency test value in 2012 amounted to 42.25 (Herman, 2012). For the province of East Java, it appears that the average teacher only reached 47.1. The low competence of teachers is caused by less periodically education and training for teachers conducted by the government.

Wu and Lin (2011) say that the pedagogical competence must be had by a teacher, if the pedagogical competence is not owned by the teachers, then teachers will have difficulty in dealing with learners. Competence of teachers is not only to see the extent to which teachers are able to understand the characteristics of learners, but also to look at the characteristics of students in the classroom, difficulties or problems of students in the class, and of course associated with the handling of teachers to the learners. However, obviously, teachers can develop their competence with the education and training which is provided by the government or the school itself.

Merrett & Wheldall (1993, in Tiano & McNeil, 2006) say that the behaviour modification training is the right choice to be given to the teachers. This is because the behaviour modification training can reduce the stress of training teachers in dealing with problem behaviour in children and reduce behavioural problems of the students. In addition, training is also very important for teachers who want to develop effective strategies in managing the classroom. Training in behaviour modification techniques are provided because behavioural approach has been successfully applied to children by their parents, school teachers, and so on (Hall, Panyan, Rabon, and broden, 1968, in Schinke & Wong, 1978).

The problems faced by teachers mentioned above is the background of this study. The authors want to provide behaviour modification training to see its effect in improving the competence of teachers in Indonesia especially in Surabaya in addressing behaviour problems of preschooler by using the techniques of behaviour modification. This study uses quantitative and qualitative research methods and the ways to get the data in this research are using achievement test, observation, interview, and teacher assignment sheet. The aims of this study are to observe the effect of behaviour modification training to increase teacher's competence in dealing with preschooler's behaviour problems in Indonesia (Surabaya city) and to see how is the teacher's competence after behaviour modification training.

## **2. LITERATURE REVIEW**

### **Behaviour problems in preschoolers**

Currently, the behaviour problems on early childhood students display a massive concern from children's observers. Merrett & Taylor (1994, in Jewell, et al., 2008) say that now problematic behaviour in early childhood is not only shown at home, but also shown at school, particularly in the classroom. Research of Bibou-Nakou, Kiosseoglou, & Stogiannidou (2000) states that a common problems that often occur in preschool children are aggressiveness, undiscipline, out of focus, which consequently interfere with their peers. Therefore, Merrett & Taylor (1994, in Jewell, et al., 2008) show that 48% of respondents said that educators should focus on disciplining children in the

classroom so that their behaviour suits the rules in the class.

### **Teacher**

According to the Law of the Republic of Indonesia Number 14 Year 2005 Chapter 1 Verse 1 on Teacher and Lecturer, it is stated that teacher is a professional educator with educating as the primary task, in extension it is elaborated so as to teach, to guide, to direct, to train, to assess, and to evaluate students on early childhood education with formal, primary and secondary education.

### **Teacher competency**

According to the Law of the Republic of Indonesia Number 14 Year 2005 Chapter 1 Verse 10 on Teacher and Lecturer, competence is a set of knowledge, skills, and behaviours that must be owned, lived, and controlled by the teacher in carrying the professionalism duties. Based on the Regulation of the Minister of National Education of the Republic of Indonesia Number 16 Year 2007 on the Academic Qualification Standards and Teacher Competencies (Depdiknas, 2008), it is explained that the Teacher Competency Standards are developed entirely in four core competencies, namely: Pedagogic Competence, Personality Competence, Social Competence, and Professional Competence. In the discussion of this study, the authors emphasize some aspects of teacher's pedagogic competence.

### **Behaviour modification**

Since the 1960's the behaviour modification keeps becoming a popular discussion by researchers. Moreover, academics began discussing behaviour modification in education in the 1970s. It then standardized many scientific literatures on the subject which were circulated among educators. Bowles Jr. and Nelson (1976) discuss about the implementation of behaviour modification techniques in school's settings that is normally rely on the effectiveness of training received by teacher as a mediator in the classroom. The results of their study is that teachers subjected behaviour modification training in the experimental group could show the fluidity in managing the classroom, such as increasing the behaviour in giving praise to children, giving reward to children, and so on. Behaviour modification techniques that will be introduced to the teachers in this study are positive and negative reinforcement, extinction, punishment, time-out, and token economy.

### **Competence in dealing the behaviour problems in preschoolers in using techniques of behaviour modification**

Table 1: Aspects of pedagogical competency which is relating to the application of behaviour modification

<b>Aspects Of Pedagogical Competence</b>	<b>Behaviour Modification Techniques</b>
Master the characteristics of learners	Conducting Assessment
	Knowing Problems in Children
Master the learning theories and principles of learning that educates.	Determining Behaviour Modification Techniques
Develop curriculum and lesson plan Implementation	Designing Behaviour Modification (Time Execution, Conditions Before, Target Behaviour Intervention Process, Expected condition)

Communicate with learners.	Telling behaviour modification's goals that will be applied to the student (student group)
	Telling rules of behaviour modification will be applied to the student (student group)
Organize learning activities that educate.	Behaviour modification techniques in accordance with established procedures
	Behaviour modification techniques with consistent
Assessment and evaluation process and learning outcomes, utilize the assessment and evaluation for the sake of learning.	Writing a daily evaluation activities performed

### Behaviour modification training

Training is a learning process that is provided through the discourse of knowledge and skills aimed at the application of learning in accordance with specific requirement (Mathis, 2002). This behaviour modification training will be divided into several inter-related material in handling behaviour problems of preschoolers, starting from how to recognize the characteristics of early childhood developmental, instrument to detect the child's problems, a common problem that is occurred in preschooler followed by natural characteristic or their behaviour, how to handle child's behaviour problems in general, and the introduction of behaviour modification techniques (such terms, conditions to implement behaviour modification techniques, the advantages and disadvantages of this technique).

## 3. METHOD

### Research design

The type of this research is a pre-experimental. Pre-experimental research is certainly willing to know the effect of the independent variable to the dependent variable. Therefore, this experimental study is using design patterns study one-group pre-test post-test design, which is symbolized as follows:

$$(O_1) \rightarrow (X) \rightarrow (O_2)$$

Effectiveness of behaviour modification training (X) will be achieved from the score difference in the results of pre-test (O1) and the post-test (O2).

### Measure

Based on the data needed, the circumstances and purpose of the research, there are 3 tools for collecting the data in this research, such as: multiple choice questions in the pre-test and post-test, assessment format for teacher competency which can be determined through interview and observation, and teacher's assignment sheets. The results of teacher's assignment sheets would be used as the data in describing the competence of teachers after training in dealing with problem behaviours in students with the use of behaviour modification techniques.

Quantitative analysis is done by looking at the different levels of knowledge

(through about the pre-test and post-test) and the skills of teachers (through observation scores to assess teacher competence) before and after behaviour modification training. Analysis of quantitative data in this study using non-parametric test differences with Wilcoxon Signed Rank Test. This analysis technique is used to describe the presence of two different measurements imposed on one of the same sample. Therefore, there will be differences in the test data from both levels of cognitive (knowledge) teacher and skill level (skill).

Qualitative data analysis is done by analyzing the results of interviews before and after training, related to the skill or skills that have been given in the behaviour modification training with content analysis. Later the results of the assignment worksheet teachers will be used to describe (describe) from analysis of the interview.

### Participants

The number of study subjects in the study are 10 teachers of preschoolers. However, researchers tested the questions of pre-test/post-test to 50 teachers who were spread in several schools in Surabaya with early childhood education services. Researchers did that to calculate the validity and reliability of the questions in pre-test/post-test.

## 4. RESULTS

### Teacher competence (cognitive/knowledge level)

Table 2: Comparison between scores of pre-test and post-test in knowledge level

No.	Teacher's Name	Pre-test's score	Post-test's score	Yes/No Increase (sum of)
1.	Teacher A	8	11	Yes (3)
2.	Teacher B	7	11	Yes (4)
3.	Teacher C	6	12	Yes (6)
4.	Teacher D	9	10	Yes (1)
5.	Teacher E	9	10	Yes (1)
6.	Teacher F	6	11	Yes (5)
7.	Teacher G	7	10	Yes (3)
8.	Teacher H	5	9	Yes (4)
9.	Teacher I	8	11	Yes (3)
10.	Teacher J	6	12	Yes (6)

Table 3: Wilcoxon signed rank test(cognitive/knowledge)

		Ranks		
		N	Mean Rank	Sum of Ranks
Score	Negative Ranks	0 <sup>a</sup>	.00	.00
Post-Score	Positive Ranks	10 <sup>b</sup>	5.50	55.00
Pre	Ties	0 <sup>c</sup>		
	Total	10		

a. ScorePost &lt; ScorePre

b. ScorePost &gt; ScorePre

c. ScorePost = ScorePre

**Test Statistics<sup>b</sup>**

	ScorePost - ScorePre
Z	-2.814 <sup>a</sup>
Asymp. Sig. (2-tailed)	.005

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Based on Table 2, it can be seen that all the teachers have increased the value of pre and post-test that tests their knowledge and understanding in handling problem behaviours in preschool children with using behaviour modification techniques. This is also confirmed by the results of Wilcoxon Signed Rank Test (Table 3) showed that p sign. <0.05 (p sign. = 0.005). This shows that there are differences between the scores of pre-test and post-test. This is confirmed by statistical analysis showed that the scores of pre-test and post-test cognitive level into positive rank, which means that post-test scores greater than pre-test scores.

**Teacher competence (skill level)**

Table 4: Comparison between scores of observation and interview before and after training

No.	Teacher's Name	Observation Score		Yes/No Increase (sum of)	Interview Score		Yes/No Increase (sum of)
		Pre	Post		Pre	Post	
1.	Teacher A	3	28	Yes (25)	8	15	Yes (7)
2.	Teacher B	12	30	Yes (18)	5	16	Yes (11)
3.	Teacher C	3	19	Yes (16)	2	16	Yes (14)
4.	Teacher D	3	18	Yes (15)	2	16	Yes (14)
5.	Teacher E	4	24	Yes (20)	6	15	Yes (9)
6.	Teacher F	4	24	Yes (20)	5	18	Yes (13)
7.	Teacher G	2	21	Yes (19)	2	18	Yes (16)
8.	Teacher H	8	12	Yes (4)	1	10	Yes (9)
9.	Teacher I	13	30	Yes (17)	4	17	Yes (13)
10.	Teacher J	12	30	Yes (18)	7	18	Yes (11)

Table 5: Wilcoxon signed rank test(skill)

		Ranks		
		N	Mean Rank	Sum of Ranks
ObsPost-Ob sPre	Negative Ranks	0 <sup>a</sup>	.00	.00
	Positive Ranks	10 <sup>b</sup>	5.50	55.00
	Ties	0 <sup>c</sup>		
	Total	10		

a. ObsPost &lt; ObsPre

b. ObsPost &gt; ObsPre

c. ObsPost = ObsPre

**Test Statistics<sup>b</sup>**

	ObsPost-ObsPre
Z	-2.807 <sup>a</sup>
Asymp. Sig. (2-tailed)	.005

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Based on Table 4, it is seen an increase in score of all teachers before and after behaviour modification training. Observations made by 3 observers shows that the teachers had done five indicators measured in this observation, namely: tell the purpose of behaviour modification, give the rules of behaviour modification that are applied, apply behaviour modification techniques in accordance with the procedures, apply behaviour modification techniques with consistent, and write daily evaluation on the implementation of behaviour modification. The results of interviews after training as a writer confirmation on what have done by the teachers in the assignment of real cases that have previously been submitted by the trainer at the end of the training session. This is also confirmed by the results of Wilcoxon Signed Rank Test (Table 5) showed that p sign. <0.05 (p sign. = 0.005). This shows that there are differences between the scores of observation before and after training.

**Teacher's assignment sheet analysis**

Teacher's assignment sheet is used by the authors to complete the interview's result and is analyzed by using content analysis.

Table 6: Summary for teacher's assignment sheet

No.	Indicator	Summary Explanation
1.	Conducting Assessment	Observation was used by all teacher. There were 4 teachers added checklist and 3 teachers added interview and checklist.
2.	Knowing Problems in Children	All teachers knew the problem that occurred in the students (group of students) in their classroom.
3.	Determining Behaviour Modification Techniques	6 teachers used 6 token economy, 2 teachers selected time out and positive reinforcement

		with using appraisal and sticker, the others chose mix techniques.
4.	Designing Behaviour Modification	All teachers could design the implementing activities of behaviour modification that would be applied to their students.
5.	Telling behaviour modification goals that will be applied to the student (student group)	6 teachers spoke about the purpose of modifying their behaviour to the children
6.	Telling rules of behaviour modification will be applied to the student (student group)	Of all the teachers involved in this training assignment, only one teacher whose was less in implementating accordance with the provisions that had been given by the trainer.
7.	Behaviour modification techniques in accordance with established procedures	The teachers were able to do behaviour modification techniques in accordance with the procedure, although there were some teachers who were not perfect yet in applying it
8.	Behaviour modification techniques with consistent	Most of the teachers were able to implement a consistent behaviour modification techniques, but there were some who did not perform consistently.
9.	Writing a daily evaluation activities performed	All the teachers are able to write an evaluation of the implementation of their daily activities in using behaviour modification in the classroom. Although there is a teacher who were not complete yet in writing the evaluation.

## 5. CONCLUSION

This research resulted in the answer to a hypothesis, which states that there is influence of behaviour modification training to increase teacher's competence in dealing with preschooler's behaviour problems. The influence is the positive influence, so from the training that is given, the researchers can see an increase in teachers' knowledge and skills on how to deal with behaviour problems of preschoolers with behaviour modification techniques.

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## Integrative Education of the 21<sup>st</sup> Century: Teaching Psychology with the Use of Literature and Informational Technology

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### ABSTRACT

In the last century, outstanding supporters of integrative education envisioned it as a synthesis of scientific and artistic knowledge (Dewey, 1916, 1989). Now this idea receives a new incentive due to availability of information technologies. In this work, a new method of teaching psychology based on the union of scientific, artistic, and information-technological knowledge is presented. The author teaches *Cognitive Development in Early Childhood* analyzing Anton Chekhov's short story *Grisha* (Chekhov, 1979) and uses both traditional and computerized instructional methodology. At the first stage of the study, 282 students analyzed the main character's cognitive functions described in the story with the use of scientific definitions and practical criteria of development. According to the results, the story truly embodied some fundamental features of early childhood development (Bandura, 1977, Bruner, 1973; Flavell, 1963; Levin, 1935; Skinner, 1938; Spitz, 1945; Vygotsky, 1998). At the second stage of the study, 60 students analyzed the story character's perception: 30 of them worked in a traditional classroom while 30 others did it in on-line classes having the computerized versions of the task and instructional methodology. Comparative analysis of the results showed that on-line students were more successful: they comprehended new ideas faster and their new skills, developed in the course of solving the task, were more stable. The root-mean-square deviation, which was an indicator of stability of the learned skill, was lower in the on-line group ( $RMSD_A = 1.2$ ) than in the on-site group ( $RMSD_B = 2.0$ ). The author concludes that (a) Chekhov's story "Grisha" is a valuable educational tool for teaching and studying cognitive development in early childhood, (b) incorporating the story into an educational process enhances the students' comprehension of complicated psychological ideas, and (c) the computerized instructional methodology has a potential for being more efficient than its traditional prototype because it creates better conditions for development of people's goal-oriented and logical thinking.

Keywords: integrative education, distance education, teaching/learning psychology online, computerized instructional methodology, psychology of arts

### 1. INTRODUCTION

In the 20<sup>th</sup> century, some outstanding supporters of integrative education argued that it provided learners with a higher competence. They declared integrative education as a synthesis of scientific and artistic knowledge (Dewey, 1916; 1989). Today, we can say with certainty that they were right. Moreover, nowadays this idea receives a new incentive. Since computers are widely used in all the areas of human activity and technical possibilities of communication are rapidly increasing, the information-technological component becomes an essential part of the integrative approach to teaching and learning as well.

At the same time, being among the most intensively developing industries, the informational technologies transform the face of modern education. Within the last two decades, distance education based on the Internet and interactive computer programs developed along with traditional pedagogical forms. Programs of distance learning are mushrooming around the world involving humanitarian disciplines as well as exact sciences. Transition of such a subject as psychology from a traditional classroom to a virtual one seems especially challenging.

This work presents a new method of teaching psychology based on the union of scientific, artistic, and information-technology in its application to on-line classes.

Fiction stories have been successfully used for teaching psychology and psychoanalysis for a long time (Bettelheim, 1989; Freud, 1933). Some contemporary specialists have also used literature for their educational practice (Boyatzis, 1992; Pitts, 1978; Toom, 2006). However, attempts to create computerized versions of such instructional methodology have been scarce until now. The most popular computerized tools for teaching the subject that can be found on the American market today do not deal with works of fiction. Meanwhile, this idea seems to be quite appropriate for teaching even the most complicated aspects of psychology. We are going to focus on one of them – cognitive development in the early childhood.

Scholars keep telling us how difficult it is to study cognitive functioning of very young children. Textbooks are short of means to present relevant complicated ideas. This drawback may be overcome with help of Anton Chekhov's short story *Grisha* (Chekhov, 1979). This uniquely profound illustration of a 2-year-8-month-old boy's cognitive functioning can help to study the topic much more effectively. The story contains vivid and detailed descriptions of how a child, having just first seen the world after a long cold winter, perceives the new objects and people outside of his nursery room. We are given a window into how he copes with unusual experiences, how he thinks, speaks, forms concepts, and develops a categorical structure of knowledge essential for his further understanding of reality.

The author of this paper has used Chekhov's story for teaching in a traditional classroom successfully for many years. With a transition to distance education, it became necessary to also incorporate this piece of literature into the on-line courses' curriculum. The main task of the project became to provide the on-line students with a computerized version of this instructional tool that would be at least as efficient as its traditional prototype.

With this purpose, we conducted a two stage study. In the first stage, we attempted to identify all the psychological phenomena embodied in Chekhov's story *Grisha*. In the second, we compared the effectiveness of traditional and computerized instructional methodologies in students' analysis of Grisha's perception.

### **Chekhov's *Grisha* as an Illustration of the Child Psychology Theories**

At the first stage of the study, 282 graduate students participated while they were taking Prof. Anna Toom's *Child Psychology* course during the period 2002-2009. The students analyzed the main character's psychological functions and behavioral patterns using scientific definitions and practical criteria of child development.

For convenience, we divided the text into twenty small episodes; each contained one event (sometimes two meaningfully similar events). Subjects received detailed

instructions describing a strategy for the episodes' analysis and criteria for the identification and interpretation of the child's actions: a list of basic emotions, behavioral reactions, and forms of categorization.

The results of this part of the study consisted in the following.

**Perception.** Eighty-nine percent of the subjects found at least seven out of 13 episodes that illustrated the character's perception. Perception was easy to identify because it is based on sensations: "Grisha looks", "Grisha hears", and "Grisha feels hot". Also, it was easy to identify because of its strong connection with the child's motor activity: his need to approach, touch, and take everything new on his way. Thus the story confirms the theories of Kurt Levin (1935) and Leo Vygotsky (1998).

**Categorization.** Ninety five percent of the subjects recognized at least eight out of 11 episodes which showed how Grisha actively categorized the world. He explored and classified everything that he experienced: objects, animals, space, people, and their behavior as well as his own. Nobody and nothing passed unnoticed by him. Thus, the character's cognitive activity is well consistent with Jean Piaget's theory (1963).

**Memory.** Ninety four percent of the subjects found at least five out of seven episodes that showed the character's capability to remember familiar people, things, and events even when they were not before his eyes anymore. Moreover, in these illustrations of the character's memory his object permanence in a progress was easy to guess. No doubt, the story reflects one of the most sophisticated cognitive phenomena discovered by Jean Piaget (1963).

**Learning.** Ninety nine percent of the subjects found at least five out of eight episodes that demonstrated *Grisha's* tendency to imitate everything he sees. Ninety two percent of the subjects found the story episode that showed how punishment influenced the boy's further behavior and social knowledge formation. Therefore, the story supports theories of learning by B.F. Skinner (1938) and Albert Bandura (1977).

**Speech.** Ninety percent of the subjects, when comparing the character's speech with the standards of speech development for 2.5–3-year-olds, found its inconsistency with the boy's age. Indeed, Grisha prefers non-verbal communication, his vocabulary is poor, and he never asks questions (who? what? why? where?). Unlike most kids of his age, he has difficulty producing even short four-word sentences. Then, 85% of subjects, after analyzing how the caregivers behaved with Grisha, concluded that the main cause of the boy's speech delay was, obviously, the neglect of his need for emotional communication. We can say that the story supports Renee Spitz's discovery (1945).

According to these results, Chekhov's story *Grisha* truly embodies some fundamental features of early childhood development elaborated by well-known psychologists. Therefore, the appropriateness of the story as an educational tool for psychology courses was proven.

## **Comparative Analysis of Traditional and Computerized Instructional Methodology**

At the second stage of this study, the purpose was to compare a computerized instructional tool for analyzing the story with traditional classroom instructions. To accomplish this goal, we attempted to create an adequate methodology that included reasonable and scientifically sound strategies to deal with an artistic text on the basis

of both psychological and formal-logical knowledge.

**Computerized instructional methodology.** An interactive computer program guided the user through twenty cycles corresponding to twenty episodes of the story (see Fig. 1). The algorithm of the program was built in accordance with the psychological theory of stage by stage formation of mental acts (Galperin, 1969). In every cycle, the user performed a sequence of acts for finding the correct answers for the two main questions: (a) Is the character's perception described in this episode? (b) If yes, does this description match the theory? The central part of the cycle included a set of auxiliary subquestions enabling a detailed and in-depth analysis of the episode. These subquestions decomposed the user's mental act into several more elementary operations. Having performed them and generalized their answers, one could find the correct answers for the main questions more successfully. Even if the user's answers were incorrect, s/he had an opportunity to find out the correct ones and receive accompanying explanations from the program. This interactive computer program was written with the use of the ASP.NET platform and MSSQL data base.

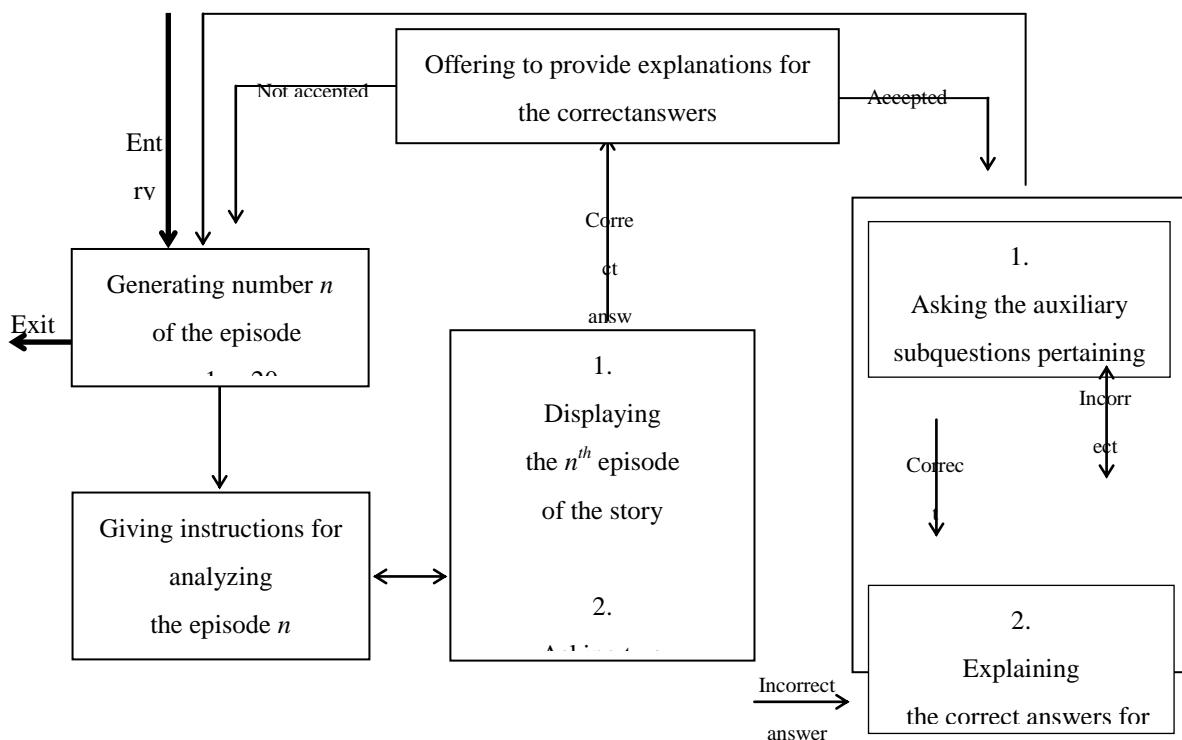


Fig. 1: Flowchart of the interactive cycle providing the analysis of each episode of the story

**Research methodology.** At the study's second stage, 60 subjects participated. They were graduate students who were taking the author's course *Child Development and Learning in the Cultural Context*. They had a short lecture on the topic of child perception, then were familiarized with Chekhov's story *Grisha* and, finally, were invited to analyze the story's episodes in their chronological order. Each subject's task was to determine which particular episodes contained descriptions of the boy's perception and whether these descriptions were consistent with the preliminary studied theory according to which perception in very young children is accompanied by strong emotions and followed by an immediate motor activity.

For the study, 30 participants analyzed the story in a classroom while 30 others did it in on-line classes using the computerized version of this psychological task. All the

participants were given the same instructions and suggested one and the same intellectual strategy for performing the task. The students in the traditional setting wrote their answers in paper forms identical to those forms which the on-line participants had to fill on their computer screens. Having analyzed an episode and answered the questions about the character's perception, the on-site students were provided with the correct answer and brief explanations by the instructor, while the on-line students received computerized feedback. The content of the explications was identical in both groups; the only difference was in the means of communication – oral in the on-site case and displayed on the screen in the on-line case.

**Hypotheses.** We considered two indicators of success in performing the task: the quantity of correct answers and the dynamics of learning. We expected that subjects of both groups would answer roughly 50% of the questions; this expectation seemed to be the most unbiased. We also expected that subjects, when analyzing twenty episodes in the course of the study, formed some intellectual skill for solving a certain type of problem or, may be, even a class of analogous problems. Thus, stability in forming this skill might serve as an indicator of successful learning.

Table 1: Descriptions of Episodes and Results of Students' Analysis of Episodes Listed by Group Type (on-site, on-line)

Episodes of the story		On-site group		On-line group	
Number	Brief content	$A_n^*$ *	$(A_{n+1} - A_n)^{***}$	$B_n^*$ *	$(B_{n+1} - B_n)^*$ **
1	Grisha* walks on the boulevard with his nanny	24		27	
2	A rectangular world of Grisha's nursery room is described	23	-1	26	-1
3	Mama, nanny, and cat are described as regular visitors of the nursery room	27	4	28	-2
4	The dining and living rooms in Grisha's house are described	29	2	29	1
5	Papa is mentioned as "a very mysterious person" (Chekhov, 1979, p.32)	27	-2	28	-1
6	Auntie, another "puzzling person," is mentioned (Chekhov, 1979, p.32)	27	0	29	1
7	In a new world, outside of his nursery room, Grisha meets new people	24	-3	27	-2
8	Grisha sees horses that are absurd for him	27	3	28	1
9	Grisha hears a terrible tramping sound – a crowd of soldiers	28	1	29	1
10	Grisha hurries after big cats running by and gets a punishment from nanny	28	0	28	-1
11	Grisha takes an orange from the woman-seller without nanny's permission and is punished again	26	-2	29	0
12	Grisha finds a piece of glass and is afraid of taking it	28	2	29	0

13	He meets the man with bright buttons that makes him happy and laughing	29	1	30	1
14	Grisha is taken by his nanny and the man to the cook's room	27	-2	29	-1
15	Grisha suffers from a hot stove	28	1	30	1
16	Grisha observes adults having a meal	26	-2	28	-2
17	Grisha gets a piece of pie and some drink from adults	29	3	30	2
18	Grisha shares his impressions of the day with mama at home	28	-1	29	-1
19	Grisha has an excitement preventing him from sleep	27	-1	29	0
20	After all, he turns out to be sick, and is treated with castor oil by mama	28	1	29	0
			2.0		1.2
			$RMSD_A^{***}$		$RMSD_B^{**}$
		*		**	

\* Grisha is a Russian masculine name, analogous to English Greg, a short for Gregory.

\*\* $A_n$  and  $B_n$  are numbers of correct answers given for every episode by the on-site and on-line students respectively.

\*\*\* $(A_{n+1} - A_n)$  and  $(B_{n+1} - B_n)$  are the differences between numbers of correct answers in the current and the previous episodes in the on-site and on-line groups respectively.

\*\*\*\*  $RMSD_A$  and  $RMSD_B$  are the root mean square deviations for the on-site and on-line groups respectively.

**Statistical analysis of the data.** The data received are shown in the Table 1. For both groups we measured the frequency of successful recognition of the main character's perception and stability in forming the skill helping to solve this problem. Since all the students of both groups found more than 50% of the correct answers for every episode, calculation of the average of correct answers ( $A$ ) for each group was considered sufficient to confirm our first hypothesis.

To check the second hypothesis, we calculated the root mean square deviation ( $RMSD$ ) for each the on-site and on-line groups. An original formula (Davis & Smith, 2005) was adjusted to our study's specific purpose. We operated with differences between numbers of correct answers given by subjects for the next and the current episodes. The root mean square deviation for the on-site group was calculated by the following formula:

$RMSD_B$  for the on-line group was calculated analogously; only the variables  $B$  were used instead of  $A$ .

**Results and their interpretation.** All the subjects studied expressed a belief that in all the episodes, analyzed by them, the main character's perception was consistent with two fundamental theories of perception. First, perception is built on sensations. Second, in the case of the child, perception is accompanied with strong emotions and is followed by immediate behavioral acts. In the on-site group the average  $A_A=27$ , and

in the on-line group  $A_B=28.6$  out of 30, the maximal number of correct answers. Thus, Grisha's perception, as described in Chekhov's story was recognized as such with a high frequency by both on-site and online subjects.

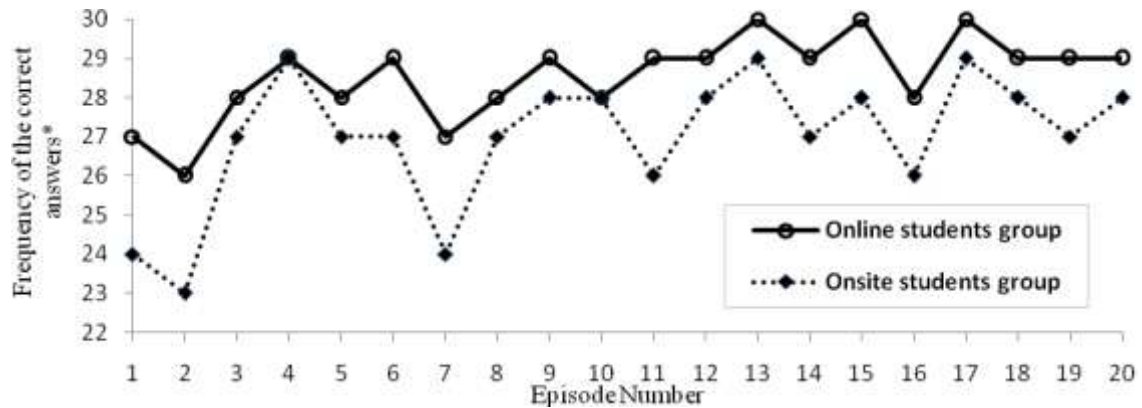


Fig. 2: The graphic results of the students' analysis of the episodes.

\* The vertical axis shows frequency of correct answers from 23 to 30, the minimal and the maximal numbers of the correct answers in this study (23 was given by the on-site group for the second episode).

The graphic results of the students' analysis of the episodes are presented in the Fig. 2. It is evident that the solid black curve keeps above the dotted one. This shows that the on-line students gave more correct answers at every episode than on-site students. We observe also that the solid curve is smoother than the dotted one. This is especially noticeable at the episodes №№ 2, 7, 11, 16, and 19. Evidently, these episodes were more difficult to interpret than the others. At these episodes both curves sharply go down, but "downs" of the solid curve are smoother than those of the dotted one. Such kind of smoothness indicates that the on-line students' learning was more stable and the intellectual skills obtained by them were more reliable than those of the on-site students.

The *RMSD* applied to the differences in each of the two groups of subjects confirms these suggestions. It is evident that the smaller is the *RMSD* the more stable and reliable is the intellectual skill obtained in result of the study. The calculation gave the  $RMSD_A = 2.0$  for the on-site group, and the  $RMSD_B = 1.2$  for the on-line group. Thus, the on-line students invariably learned more successfully than on-site ones.

Interpretation of the results is based on the author's many years of work experience as a university professor of psychology and a researcher.

The result obtained may be interpreted based on a comparison of the conditions for intellectual work in the on-site and on-line classes. First, unlike the traditional classroom, where communication is oral, in virtual classes, students deal with visual information, and it is easier to solve complicated psychological problems when all the problems, instructions, and feedback messages are visually represented. Second, in the traditional classroom, the students' answers, even correct ones, are often intuitive guesses. In contrast, on-line communication requires more deliberate responses, and the computerized instructions more than traditional ones stimulate students to goal-oriented and focused thinking. Third, a complicated analysis of every story's episode is not accentuated in the traditional classroom, but in the virtual classroom, on the contrary, it has to become more explicit and rationalized due to formal



representation of information. Finally, our computerized instructional tool represents the strategies of intellectual activity needed to reliably obtain correct answers. In the course of the study, the on-line students learned not only correct answers, but also efficient rules of analysis and how to use these rules in the correct order. Due to the formal procedures, which were performed twenty times, and due to the informative feedback, which was received on each step, the on-line students mastered the intellectual strategy leading to success. In a traditional classroom, such a detailed training of every student's logical thinking is practically impossible. This explains the greater number of mistakes made by those who analyzed the story in a classroom.

## 2. CONCLUSIONS

Anton Chekhov's story *Grisha* embodies such fundamental features: soft oddler hood and early childhood as (a) unity of emotion, cognition, and behavior that determine perceptual abilities of the child, (b) intensive categorization of the world, (c) appearance of long-term memory and intensive development of object permanence on the basis of it, and (d) dependence of successful speech development on the child's satisfied need for emotional communication and existence of positive models to imitate. All these important phenomena of development at the early age were recognized with a high frequency by participants of the study. Therefore, the story is a very valuable educational tool for teaching and studying child cognitive development.

Computerized instructional methodology makes the analysis of the story character's psychological functions and behavior more scientific. However, this kind of analysis – rigorous, logical, and following certain explicit rules – does not impoverish the comprehension of artistic literature, as has often been affirmed. On the contrary, the study of psychological features of the little boy, the main character of Chekhov's story, becomes only more productive if formal rules of analysis are applied. This is still truer since the subject of our study is a 2 year 8 months old toddler, whose inner world is still too spontaneous and fluent for systematic observations and definite conclusions.

Computerized instructional methodology is more laborious, but it has a potential to become more effective than its traditional prototype. If the interactive computer program serving as an instructional tool is well organized, it stimulates students' motivation for independent intellectual activity. Moreover, it provides a possibility for enhancing their learning and development of their goal-oriented and formal thinking.

The integrative instructional methodology, while it combines such exciting things as psychology, artistic literature, and new informational technologies, provides learners with a unique experience. Along with teaching students psychological theories, ideas, and concepts, we also teach them to understand and appreciate a piece of art that illustrates the psychology of a child with a great realism and talent. A piece of artistic literature animates the learning process, brings a positive emotional flavor into it, and enhances the students' comprehension of complicated psychological ideas. Using an exceptionally talented piece of literature for studying psychology fosters people's aesthetical taste and greatly promotes their emotional well-being within both traditional and virtual psychology classes.

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## A STUDY ON YONISOMANASIKĀRA THINKING OF FIRST YEAR STUDENTS

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### ABSTRACT

The purpose of this research was 1) to study Yonisomanasikāra Thinking of first year students 2) to compare Yonisomanasikāra Thinking of first year students classified by sex and academic achievement. The sample used in this study was 77 first year students in the year of 2012, at the Faculty of Fine Art, Srinakharinwirot University. The data was selected by Cluster Sampling. The instrument used in the study was a Systematic Attention Test for students in the Higher Education with reliability at 0.74. The data was analyzed using percentage, mean, standard deviation, t-test and one-way ANOVA.

The results of study revealed as follows :

1. The sample had Yonisomanasikāra Thinking in the lowest level 35.06%, the low level 44.16%, the medium level 19.48% and the high level 1.30%.
2. Yonisomanasikāra Thinking of Students with different Sex were statistical significant difference at .05.
3. Yonisomanasikāra Thinking of Students with different academic achievement were significantly different at .05. By Yonisomanasikāra Thinking of Students with high academic achievement had Yonisomanasikāra Thinking higher than students with average academic achievement statistical significant difference at .05. but students with low academic achievement were not significantly different from students with high academic achievement and students with average academic achievement.

Keyword: Yonisomanasikāra Thinking, Thinking, Systematic Attention, Academic achievement

### 1. INTRODUCTION

In living, when people have knowledge, understanding, ideas, opinions, attitude, right tradition, good moral, are helpful to each other and the society which are agreeable to the truth; in other words, it can be called the right view. These will effect the thought, words, action, and right, good, helpful expression and performance which will lead to the end of suffering and the problem solving. On the other hand, if people have wrong knowledge, understanding, ideas, opinions, attitude, and tradition; in

other words, it can be called the wrong views then the thought, speaking, action, expression, and performance will become wrongful. Instead of ending suffering and solving the problems, it will lead to gain more suffering, and also accumulate the problems to be more serious (Pradhammapidok (P.A. Payutto), 2000, p 1-2).

Yonisomanasikāra Thinking is one of many ways which is able to help develop human thinking. Since it is in the way of the right perception thinking by processing through systems thinking with reasons and goodness, it will make people think in the right way; as well as, analyze the things as they are. This will help them solve their problems rightfully; they, likewise, will have the right attitude to themselves, together with the responsibility for what they have done and gain more self confidence in their own abilities. All of these can motivate them to think widely and prefer to do the good thing which will build their principles in living. (Pradhammapidok (P.A. Payutto, 2000;, Apa Chantharasakul, 2003). Yonisomanasikāra Thinking is the way of think which will help people to have the right thought, reasonable, and agreeable to the truth.

Yonisomanasikāra Thinking means thinking correctly and logically, and charity. By this way, people will look at the surrounding things agreeable to the truth without any bias, or holding adhesively under their curiosity. If people apply Yonisomanasikāra Thinking into their daily life, it will help them solve their problems and develop themselves correctly. Yonisomanasikāra Thinking combines 10 ways; however, in this case study, it will use only 6 ways. Since Phraphomkhunaphon (P.A. Payutto) (cited in Apa Chantharasakul et al, 2003, p 45-46) gave an opinion that the main thinking comes in two ways. One is solving the problems, and another is thinking in many aspects of distribution. Both should be brought to apply with the students. The other 4 ways of thinking that should apply to study are pros and cons thinking and the solution way, on true and false value thinking, and charitable thinking. In addition, the rest of thinking is under the 6 ways of thinking as the following:

- (1) **Thinking according to the problem solving method** is how to observe the problem which combines with the following steps:
  - 1.1 Determine the problems which mean to understand the problem precisely, as well as the boundary condition of the problems (The Nature of Suffering).
  - 1.2 Search to specify the problems which means to analyze all problems to solve (Suffering's Origin)
  - 1.3 Determine the direction in solving problems which means to determine the need of problems solving precisely in order to find out what is the problem. (Suffering's Cessation)
  - 1.4 Set the procedure to eliminate the cause of problems in accordance to the stated goal.

Thus, programming the procedure and what to do to fix this problem with success to meet the goals (The Way Leading to the Cessation of Suffering).

Thinking to solve problems is best to think of ideas to solve any problems. Since it is systems thinking which is done step by step. By beginning to understand problems thoroughly, then specify problems' origin in order to find the solution. After determining the goal of self-evident, then set guidelines to comply with the stated goals.

- (2) **Reflecting on the worth, the harm and the escape** mean to consider of things to complete, worth and harm as it is. Also finding a comprehensive solution to the problems which can be divided into:
- 1.5 The worth of that something
  - 1.6 the harm of one
  - 1.7 The solution is to know exactly what we are all advantages and perished. We will find the solution for the disadvantages that result in a minimum negatives to ourselves.

- (3) **Reflecting on true and false value thinking means to consider** or to value the items which can be classified as the following:
- 1.8 True value is the value or the usefulness of items used in the requirement of his or her life in order to live well, to benefit oneself and others. This value is an estimate based on intelligence to value, or to price items.
  - 1.9 False value is the value of human form that is added to enhance the price of their greatness. This unreal value uses the passion to value, or to price items.

This way of thinking is suitable to consider buying the goods needed for the daily life which is to be a cost-effective and useful for real life.

- (4) **Reflecting as a means for stimulating virtues** means to look for the positive idea from various situations or experiences to use to his advantages, or encourage to develop his creative and different even if the situation, or experience was not that pleasant. However, he must think of and see the best of situation, or experience. This method is composed of two sub-steps.
- 1.10 Looking for a good portion of that experience
  - 1.11 Applying the best part to develop oneself
- (5) **Thinking by knowing the common characteristics** means to consider to the actual events by understanding how things are going to change the conversion factor to the accident, not to the satisfaction of any changes so that one must not be underestimated. This will be linked to the speed of his current duties to the best whether acting on his own, or to make a decent life for others and the society which is consisted of two sub-steps.
- 1.12 Knowing the fact
  - 1.13 Acceleration is to know what caused the changes. Nothing is fixed, as well as our lives. It needs to accelerate to completion of our duties.

- (6) **Thinking by way of analytical reflection and reasoned attention distribution algorithms** are to think of the things that make all the different to for decision making, or to understand it. These algorithms can be classified into different thinking styles. These are classified by various terms according to the physical components of the classification, by the order, by the relationship of the factors, by the condition, by choice or otherwise be possible, and recognized as one of the problems.

Yonisomanasikāra Thinking is used to determine the actual things, and a way of thinking on ethics. So if a person has a validity algorithm to solve problems in everyday life, he will be able to solve his problems and self-development.

First year undergrad students should be trained to have the validity of the algorithm. Since these students are facing a change in social and learning style of

university student from different grades in high school so that they often have problems with college adjustment. According to Surapong Choodej and Vibhavee Auevorameth (2002, p 218) have said education in college is different from high school. Students need to be self-reliant, and to manage and operate everything manually. If student can adapt to different events while studying in college, it is believed that they will not have mental health problems. On the other hand, if a student does not qualify, it may lead to depression, anxiety, tired, frustrated, and desperate which will affect the education of students. Thus, if students have the validity of the algorithm, Yonisomanasikāra, it will be linked to the correct behavior, emotion, and spiritual quality. It would also lead them to the right way of thinking including the ability in solving problems in the classroom and in everyday life. They can live the life correctly, and be happy to learn.

The researchers were interested to explore if first year undergrad students are thinking validity, and at what level; as well as, variables that affect students' ability to think such as in gender and in academic achievement. The result of this research could lead to the development of the students to be productive in life (Growth).

**Research Objective:**

1. To study Yonisomanasikāra Thinking of first year students
2. To compare yonisomanasikāra Thinking of first year students classified by sex and academic achievement.

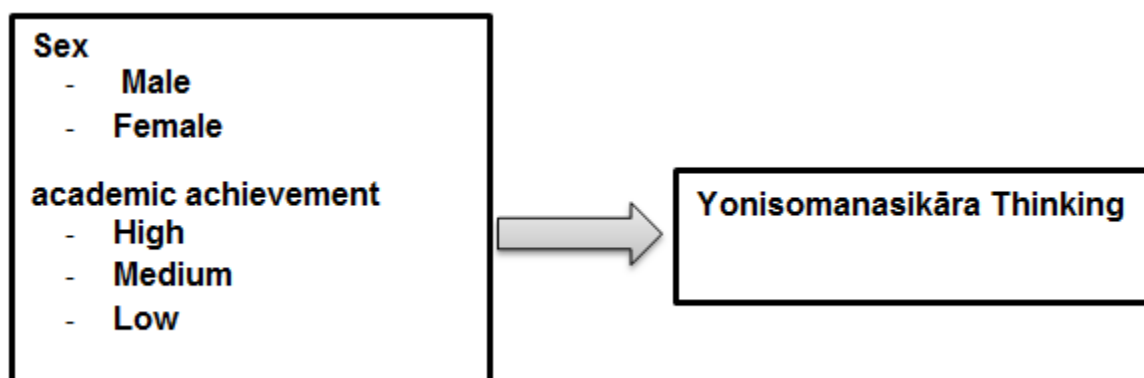


Fig. 1: Conceptual Framework

**2. METHOD**

**Participants**

The sample used in the study is 77 first year students who are studying in the first semester of year 2011 at the Faculty of Fine Art, Srinakharinwirot, which were selected by cluster Sampling. The sample was classified by sex and academic achievement. (Table 1)

Table 1 Mean and Standard deviations by sex and academic achievement

Sex	academic achievement	<i>M</i>	<i>N</i>	<i>SD</i>
Male	below 2.25	5.14	7	3.29
	2.25-2.75	2.83	6	2.32

	higher 2.75	6.48	23	3.31
	below 2.25	7.38	8	5.73
	2.25-2.75	0.50	2	0.71
Female	higher 2.75	8.84	31	3.99
	Total	8.15	41	4.60
	below 2.25	6.33	15	4.73
Total	2.25-2.75	2.25	8	2.25
	higher 2.75	7.83	54	3.87
	Total	6.96	77	4.24

From the data in Table 1 showed that students had an average score of Yonisomanasikāra Thinking was 6.96, and the standard deviation was 4.24.

Considered on gender, showed that males had a mean score was 5.61 of Yonisomanasikāra Thinking and the standard deviation was 3.37. While the average females score in the validity of thinking was 8.15, and the standard deviation was 4.60.

In the meantime, it found that academic achievement by students with high academic achievement (GPA 2.75, or higher) had an average score in Yonisomanasikāra Thinking was 7.83, and the standard deviation was 3.87. The moderate academic achievement (GPA 2.25-2.75) had an average score in Yonisomanasikāra Thinking was 2.25, and the standard deviation was 2.25. The students with low academic achievement (GPA less than 2.25) had an average score in Yonisomanasikāra Thinking was 6.33, and the standard deviation was 4.73.

### Instrument

The instrument used in the study was a Systematic Attention Test for students in the Higher Education which was created by Assoc. Prof. Dr. Apa Chantharasakul, et al. The construct validity and the content validity of the Systematic Attention Test was evaluated by the expertise, Phra Brahmaganabhorn (P.A. Payutto), and the reliability of the test was measured by the confidence coefficient alpha of Cronbach (Coefficient  $\alpha$ ). The reliability was 0.74.

## 3. RESULT

### The result of study in Yonisomanasikāra Thinking of First Year Students

Researchers brought the score of Yonisomanasikāra Thinking of the 77 samples, which was the raw score compared to the standard T-score of standard sample. (Table 2)

Table 2 The result of study Yonisomanasikāra Thinking of First Year Students

Raw score	T-Score
0.00	-
1.00	-
2.00	-
3.00	-
Raw score	T-Score

4.00	33
5.00	35
6.00	37
7.00	38
8.00	40
9.00	42
10.00	43
11.00	45
12.00	47
13.00	48
14.00	50
15.00	52
16.00	53
17.00	55

Then interpret the level of Yonisomanasikāra Thinking compared with the validity criteria (Table 3), which are summarized below:

T Score over 65	Student had yonisomanasikāra Thinking in the Highest level
T Score 55-65	Student had yonisomanasikāra Thinking in the High level
T Score 45-54	Student had yonisomanasikāra Thinking in the Medium level
T Score 35-44	Student had yonisomanasikāra Thinking in the Low level
T Score below 35	Student had yonisomanasikāra Thinking in the Lowest level

Table 3 Show the results of the Yonisomanasikāra Thinking by comparison with a criteria.

T Score	N	%
T Score below 35	27	35.06
T Score 35-44	34	44.16
T Score 45-54	15	19.48
T Score 55-65	1	1.30

From the data in Table 3 showed that students with raw scores were converted to a score between 0.17 points, and on T-score was in between T-33-T-55

From the data in Table 3 indicates that the students had the very low level of Yonisomanasikāra Thinking for 27 persons, 35.06%, the low level was 34 persons, 44.16%, the average level was 15 persons, 19.48%, and the good level was 1 person, 1.30%.

### **Comparison of Yonisomanasikāra Thinking of students by sex and academic achievement**



Table 4 T-Test result for comparison of Yonisomanasikāra Thinking of students by sex

Yonisomanasikāra Thinking	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>Df</i>	<i>P</i>
Male	36	5.61	3.37	-2.73	75	.008
Female	41	8.14	4.59			

From the data in table 4 revealed that Yonisomanasikāra Thinking of Students with different Sex were statistical significant different. (P value < .05)

Table 5 ANOVA result for comparison by academic achievement

Yonisomanasikāra Thinking	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>P</i>
Between Group	2	224.55	112.28	7.27	.001
Within Group	74	1142.33	15.44		
Total	76	1366.88			

\* Significant at the .05 level.

From the data in Table 5 showed that students with different academic achievement have different ways of thinking, and have statistical significant different at the .05 level,

Table 6 Newman–Keuls Method post-hoc analysis classification of Yonisomanasikāra Thinking observed means by academic achievement

Yonisomanasikāra Thinking	<i>N</i>	<i>M</i>	low	medium	High
Low	8	6.33	-	4.0833	1.5000
Medium	15	2.25		-	5.5833*
High	54	7.83			-

\*<.05

From the data in Table 6 indicated that students with high academic achievement had higher score than moderate academic achievement in statistical significant different at the .05 level, but for students who had low academic achievement, the difference is not statistically significant compared to students with high academic achievement and average academic achievement.

#### 4. DISCUSSION

The majority of students in the sample group scored less Yonisomanasikāra Thinking. This is because students were not trained to think in Yonisomanasikāra Thinking enough so that it had low score agreed to the research of Apa Chantharasakul and team (2003). It found out that the score of students was very low compared to the full version of the test. Moreover, the research of Ponglak Jitkarun (2004) pointed out that the majority of students in Rajabhat Piboonsongkram University had an average score. When considering in specific portion, it found that students with reason thinking had lower score than the others. Kriangsak Chareonwongsak (2003, p4-6) studied about the main features of desirable characteristics of Thai people by ages, found that Thai people should have 10

characters, and one of desirable characters is desirable to have the ability to think. Therefore, to encourage students learn how to think is very important presently. Yonisomanasikāra Thinking should be trained in the school since it is based on the intellectual thinking. The process is reasonable and charitable.

In addition, the development of strategic plans for economic and social development of the country by December 10, 2007-2011 recognizes the important of human and social development of Thailand's social and cognitive learning as a strategic priority.

The first element of the strategy is to develop the knowledge and morality in order to make self-awareness. Modern society does not want those who have the ability and knowledge only. But, a good and moral person can live with the wave of globalization. Yonisomanasikāra Thinking develops a way of thinking in a person to have the thought and the beliefs consistent with reality. This will enable individuals to have a pretty good idea and good attitude toward oneself, have responsibility for their own actions, and confidence in their personal capacity which will cause a wide incentive to seek a good idea to do something differently, and also will help people to have the principle of life in the right direction including the ability to solve their own problems correctly by the charity. (Pradhampidok,2000; Apa Chantharasakul, 2005)

Moreover, Students with high academic achievement had higher right view of thinking than students with moderate academic achievement, but students with low academic achievement were no difference from students with high and average academic achievement. This is because there may be other complicating factors to influence the thinking of students, such as the influence of the environment, parenting of parents, etc. It also did not have a clear idea that achievement is related in the same way (Positive correlation). However, research on the relationship between achievement learning and how to think found that student achievement was positively correlated with the right view thinking such as this study on the influence of achievement on the right view. There is consistent with the study of the interaction between academic achievements Ahrunee Thaibundit (2002) which found that academic achievement interacted with the right view thinking. Students with higher academic achievement scored higher in critical thinking than students with low academic achievement; as well as, the study on the effect to the ability of critical thinking of PE Anchalee Palasoon (2010) also found that student achievement was good predictors of critical thinking ability of these findings. It implies that achievement of students affects a person's ability to think.

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## A study of Coping Behaviors in Attempted Suicidal Risk

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### ABSTRACT

The purpose of this research was to study coping behaviors in attempted suicidal risk of out-patients at Buddasothorn hospital in Chachoengsao province. The samples used in this study was chosen patients based on the features, evaluated by screening the attempted suicide risk at Department of Mental Health in 1 month ago . It found that there were 30 people in attempted suicidal risk, and it was manually recorded by the researcher from 6<sup>th</sup> August to 24<sup>th</sup> August 2012. The instruments consisted of the Personal Data Record Form, the Coping Behaviors and the attempted suicidal Risk Questionnaire (8Q). The statistics used in data analysis were percentage, mean and standard deviation, and one-way analysis of variance.

The results of over all coping behavior on attempted suicidal risk of the sample, revealed that problem – focused coping behavior and emotional – focused coping behavior of attempted suicidal risk were in a moderate level ( $\bar{X} = 39.43$ ,  $SD = 9.03$ ,  $\bar{X} = 39.83$ ,  $SD = 5.98$ ). The level of attempted suicidal risk Questionnaire (8Q) was at a low level (67.7%). There were not significantly different statistically both problem – focused coping behavior and emotional – focused coping behavior.

Keywords: attempted suicidal risk, coping behaviors, Problem - focused, Emotional - coping behavior

### 1. INTRODUCTION

Suicide is a major social and public health problems. In the current situation, suicide is particularly worrisome. According to the World Health Organization found that the world's population, the rate of suicide is increasing steadily in the last 50 years, expected to commit suicide worldwide increased to 1.5 million people by the year 2020 (World Health Organization [WHO], 2002). And there was more than one million people commit suicide or an average of one person every 40 seconds in the men's rate of success than women to commit suicide three times (QMI Agency, 2011).

The Report of the Department of Mental Health of Thailand Ministry of Health (2011) found that the rate of suicide in the country was at 3,873 people, and it was equivalent to 6.03 per hundred thousand of population. It was found that the increase from a year ago. The male suicide rate is still higher than females. The males have the highest suicide rate in the age range 30-34 years and females aged 75-79 years in the province. Since established in 2008 – 2010, the number of suicides was 56, 59 and 56 persons respectively, and the suicide rate was at 8.34, 8.85, and 8.46 respectively, per hundred thousand of population.

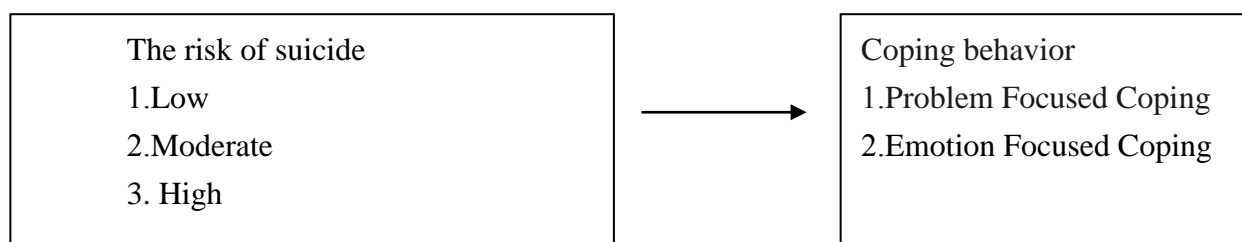
One of the major trends of the statistics for suicide attempts in Thailand between 1997 and 2011 is in the age range 20 -29 years the most. However, it found that the ages of people who commit suicide after 3 years of trying to commit suicide in Thailand were likely to change from the past to 50-59 years, 30-39 years, and 70-79 years, respectively (Department of Mental Health Ministry of Health, 2012). Moreover, a group of people at risk of suicide attempts was more likely to be elderly.

Statistics for the service of those who attempted suicide were treated at Buddasothorn hospital in Chachoengsao province was still higher. Similarly, the suicide rate continues to rise, as well as the failed suicide. Therefore, the researcher aware of the importance in searching those who were at high risk of suicide attempt at servicing at Buddasothorn hospital in Chachoengsao province to lead to a cure, and later the psychological treatment. For those, who had a high risk of attempting suicide, could see the value of existence, and, were able to cope with the problems under the pressure of the situation around them effectively, and not to turn to commit suicide in dealing with the problems since the causes by the suicide attempt lead to the loss of both physical and mental of society and economy (Department of Mental Health Ministry of Health, 2003). These also affected on loss of human resources, and cause depression for those who were very close (Prach Boonyawongwirog, Somkuan Harnwattachaigoon, and Barmee Charussingha, 2004).

The Report of the Department of Mental Health Ministry of Health (2011) found that the suicide rate of the country is still not lower. These are the loss of key personnel who will help develop the country. The person who tried to kill himself was not affected by the body, but also psychological health problems (Nittaya Chalermgoon, Chalor Choopong, and Nonthip Borisoot, 1999). Otherwise, they may return to face the unsolved problem, thus resulting in repeat and risk of suicide during the first year after their first attack, up to 100-fold (Department of Mental Health Ministry of Health, 1998).

**Research objective:** To study coping behaviors in attempted suicidal risk out-patients of Buddasothorn hospital in Chachoengsao province.

### Conceptual framework



## **2. THEORETICAL BACKGROUND**

Suicide is how one person, or a group of some of the activities intended to end his life. Ranging from suicide to be completed, a willingness to self-destruction, often using violent means, and can end at any time. And one is an attempt to commit suicide, but could not be completed (attempted suicide) that may be due to a witness or assist immediately. Attempting suicide is a symptom, or for major pain. The approach leads to the death of people considered suicide. It is said that the suicide attempt. It threatens as a sign of the desired length (a cry for help) to destroy a person's life. It shows a lack of joy under pressure, or feeling sad and hopeless without a savior. People who attempt suicide are often confused between the living and the dead. In some situations, people who attempt suicide do not really want to die. They want to do it for the attention, or need help. If assisted suicide was appropriate, it will not happen. Of the statistics of those who have attempted suicide and 10 times more than suicides, about 60% of people who commit suicide often have a history of attempted suicide before. So the people who commit suicide have had a number of attempted suicides before (Nongrak Thepsawadi, 1999).

Learning coping behaviors in people trying to commit suicide as a way for individuals intended to be used to deal with the uncomfortable of circumstances in life. It is a continuous process in response to the body to reduce the severity of the situation stress, frustration, or conflict, and to control emotional responses that maintain the balance of body and mind. It can be divided into two types: Problem Focused Coping Behavior and Emotion Focused Coping Behavior. Both Coping Behaviors appropriate to the nature of the problem is different so that it can take both simultaneously. If individuals choose appropriate coping behavior will result in the balance and happiness in life.

In people who have attempted suicide, if they are learning the right habits coping mechanism that is used to treat people who are mentally disturbed equilibrium, they can respond effectively. On the other hand, if a person has learned coping behaviors that are not appropriate, or avoid the problem. They may think that suicide is the only solution they have at the moment. It is how to convince people who are hopeless, and do not see a way out of the problem, and do not want to live understand and trust to freely vent their frustrations, face a problem, changes in mood, thought, and behavior. Moreover, they need to stop hurting themselves, love themselves. And help them know that there still are people loving them, and do not feel isolated, frustrated, and hopeless, to help them can cope with different situations with intelligence, and can prevent suicide.

In Thailand, although there were many studies to learn about suicide in patients at risk for suicide, group attempted suicide, and the repeated suicide, the Report of the Department of Mental Health Ministry of Health (2012) found that the suicide rate of the country is still not lower. These are the loss of key personnel who will help develop the country. The person who tried to kill himself was not affected by the body, but also psychological health problems (Nittaya Chalermgoon, Chalor Choopong, and Nonthip Borisoot, 1999). Otherwise, they may return to face the problem is not resolved, thus resulting in repeat and risk of suicide during the first year after their first attack, up to 100-fold (Department of Mental Health Ministry of Health, 1998).

## **3. MATERIALS AND METHODOLOGY**

### **A. The research design**

To answer the researched questions previously mentioned, it was essential to establish an empirical framework that guides the research process and focuses on the study intended to examine to get answers to the purpose of the study by the survey research.

## **B. The Population and study samples**

Population in this study was the out-patients at Psychiatric clinics in Social Security clinics and Hemodialysis units who were attempted suicide risk at Buddasothorn hospital in Chachoengsao province. The Inclusion Criteria were as follows:

1. Perfectly sensible, perception takes place in a normal individual.
2. Had no severe mental disorders such as schizophrenia and delusional symptoms from taking drugs.
3. Be able to communicate by speaking or writing in Thai.
4. Aged 20 years and over.
5. Willing to cooperate in this study.

The samples used in this study was chosen based on the features, evaluated by screening the attempted suicide risk at Department of Mental Health in 1 month ago found that there were 30 people in attempted suicidal risk, and it was manually recorded by the researcher from 6<sup>th</sup> August to 24<sup>th</sup> August 2012.

## **C. Measurement Construction**

1. Coping Behaviors Questionnaire by Nussara Thongrod (2005) developed from Literature Review and Concept and Coping Behavior by Lazarus and Folkman (1984) in Thai version which were divided in two methods that were Problem Focused Coping Behavior and Emotion Focused Coping Behavior. There were all 24 questions, divided into various components in cluding a 12 questions. Problem Focused Coping Behavior Questionnaire combines with the positive and negative questions, choosing to level 5 on the scale. The respondents choose only one from high, moderate, low, never. By answering the positive questions 1-12, and the negative questions 13-24

Score 12-28 means a habit of facing the problems is low.

Score 29-45 means a habit of facing the problems is moderate.

Score 46-60 means a habit of facing the problems is high.

The mean of the obtained scores is in if they score higher in either Problem Focused Coping Behavior or Emotion Focused Coping Behavior, it means that they are at risk commit suicide on that side is high. On the other hand, if they score low either side will mean they are at low risk of commit suicide on that side.

2. The attempted suicidal Risk Questionnaire (8Q) of the Department of Mental Health of The Ministry of Health has requested the 8 evaluation questions in 2 parts as follows:

Question 1-7 used for assessment of suicide during the first month only.

Question 8 used for assessment of suicide for the whole life.

Assessment of suicide with eight questions (8Q) is answered by yes, or no only.

The total score is the assessment and the suicide with eight questions (8Q), which will have a score between 1 to 52 points.

Interpretation of the suicide score by 8 questions (8Q) is divided into 4 levels after the combined total as follows.

Total Scores	Interpretation
0	There are no more likely to commit suicide currently.
1 - 8	Are more likely to commit suicide than the current level.
9 – 16	Are more likely to commit suicide in the moderate.
≥ 17	Are more likely to commit suicide in the severe level.

#### D. Data Analysis

The descriptive statistics was used to analyze and processed the data with statistical software (Statistical package for social science) to do statistical analysis of the data used frequency, percentage, mean, and standard deviation, one-way analysis of variance (One way ANOVA) to determine the relationship between attempted suicidal risk and coping behaviors of Buddasothorn hospital in Chachoengsao province.

#### E. The Result of Data Analysis

The result of study in coping behaviors in attempted suicidal risk of out-patients at Buddasothorn hospital in Chachoengsao province., were the following;

Table 1 Number, percentage, mean, and standard deviation of Personal Information and the Attempted suicidal Risk Questionnaire (8Q). ( $n=30$ )

Personal Information	Number	Percent
Gender		
Female	24	80
Male	6	20
Ages/years		
25-29	3	10.0
30-34	4	13.3
35-39	5	16.7
40-44	5	16.7
45-49	2	6.7
50-54	7	23.3
55-59	4	13.3
$\bar{X}=42.73$ , $SD=1.98$ , $Min = 25$ , $Max =58$		
Marital Status		
Single	9	30.0
Married	10	33.3
Widow/ Divorced/ Separated	11	36.7
Level of Education		
Primary School	18	60.0
High School	6	20.0



Bachelor Degree	6	20.0
Suicide Attempt History		
Never	20	66.7
1	7	23.3
2	1	3.3
4	2	6.7
How to attempt suicide		
Drug overdosing	5	50.0
Hanged to death	3	30.0
Ingestion of poisons	2	20.0
The risk of attempted suicide		
Low	23	76.7
Moderate	4	13.3
Severe	3	10.0

Table 1 showed that the most percentages of the personal information on the Attempted suicidal Risk Questionnaire (8Q). ( $n=30$ ) were respectively following; Gender was female (80%), Ages /Years was between 50-54 (23.3 %), with  $\bar{X}=42.73$ ,  $SD=1.98$ ,  $Min = 25$ ,  $Max =58$ , Marital status was widow/divorced/ separated was (36.7), Level of education was primary school (60 %), Suicidal attempt history was never (66.7%), How to attempt suicide was drug overdosing (50 %), and The risk of attempted suicide was low (76.7%)

Table 2 The range, mean, and standard deviation of the Coping Behaviors. ( $n =30$ )

Coping behaviors	Rang of Record	Rang of Samples	$\bar{X}$	$SD$	Level
Problem focused coping	12-60	18-57	39.43	9.03	Moderate
Emotion focused coping	12-60	29-50	39.83	5.98	Moderate

Table 2 showed that problem focused Coping behavior and Emotion focused coping behavior were the same :Moderate level.

Table 3 Test results of the Attempted Suicidal Risk by coping behaviors to deal with the problem.

Sources of variability	$df$	$SS$	$MS$	$F$
Between the groups	2	.86	.43	.98
In the groups	27	11.81	.44	

$$F_{.05} (2,27) = 3.35$$

Table 3 indicated that behavior aimed at Problem focused coping the attempted suicide risk were not significantly different statistically.

Table 4 Test results of the Attempted suicidal Risk by coping behaviors to deal with the emotion.

Sources of variability	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
Between the groups	1	.47	1.09	1.09
In the groups	28	12.19	.31	

$F_{.05} (1,28) = 4.2$

Table 5 showed that behavior aimed at Emotions focused coping the attempted suicide risk were not significantly different statistically.

#### 4. DISCUSSION

Due to the current situation, suicide is increasing continuously. Most of the patients already come to see doctors because of health problems, or with a chronic physical illness. When screening on the risk of attempted suicide of Department of Mental Health, a sample that could be found in the first month with the risk of suicide attempts occur. The sample of the risk of suicide aged 50-54 years, most of which were middle-aged (Middle adulthood), and preparing to enter old ages. By this age, there were lots of duties and responsibilities. However, the body began to decline in almost all systems (Wipawan Chaoum Pensuksa). This was consistent with the study of sompop Ruengtrakoon (1985) and Wanlearn Srithong and team (2011) found that female suicide was often between the ages of the ages 40-50 years due to the deterioration of the body that depend on one another. Some patients were with the loss of loved ones and close. Some might not be cared of by the family. It could cause emotional problems, common emotions such as sadness, easily bored, frustrated, hopeless, annoyed, and etc. Some may have more severe psychological symptoms, such as hallucinations (Penpilai Reuthakananon, 2006). The sample was found to have a history of physical violence themselves, from 1-4 times, it was more likely to kill themselves from low, moderate, to severe level. That means learning to face the problem of individual behavior in response to stimuli that are threatened by environmental change, or the person to fit the situation with the aim to solve the problem directly, as well as the chronic physical illness continues to cause the patients' stress. And, they kept thinking of the sequences with the same problem on their own (Warapon Wannapiroon, 2002).

It showed that emotion focused coping, or feeling, could not solve the real problem. There were various ways as some people might use self-blame in order to beat stress, and be a driving force in the fight. Some people might be looking at a problem in a positive way, meditation or progressive muscle relaxation, drinking, and etc. issues. The problems still had not been resolved. Maybe it's just fallen out of trouble for some time, and then return to face new problems. When this was repeated, it increases the risk of suicide increased.

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## Exploring the use of vignettes to facilitate and assess learning

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### **ABSTRACT**

Vignettes have been used in different disciplines for various purposes. In nursing and other medical or health-related fields, it has been employed to train and assess clinicians' skills and attributes in work-related areas. Vignettes have also been used in education and social work to study practitioners' professional judgment and problem-solving ability in open-ended situations. How far vignettes can be adopted in the teaching of Psychology is a rarely studied area. The present paper attempts to explore this knowledge gap and open a discussion in the area. The paper starts with a brief overview of the definitions and uses of vignettes. It then moves on to discuss how vignettes can be used to facilitate and assess learning of theories and concepts in Educational Psychology. Several original vignettes related to child development constructed by the author will be included as illustrative examples. The paper ends with a discussion of possible directions for future investigations in the use of vignettes as a tool for instruction and assessment.

Keywords: child development, vignettes, teaching and learning

# Psychology III

10:30-12:00, December 16, 2012(Room 2)

**Session Chair:** *Weifen Lin*

**198: The Posttraumatic Growth of University Students**

*Aree Kantitammakool*

*Burapha University*

*Surin Suthithatip*

*Burapha University*

*Dolddao Purananon*

*Burapha University*

**209: A Psychosocial Attachment Study of Depression in Taiwanese Women**

*Lun Chi Chang*

*Royal Holloway, University of  
London*

*Antonia Bifulco*

*Kingston University*

**210: The Relationships of Teachers', Parents' and Peers' Autonomy Support and Students' Engagement in Mathematics**

*Linda Primana*

*Universitas Indonesia*

**218: The Creative Process during Composing in Classical and Jazz Professional Piano Musicians**

*Anindya Dewi Paramita*

*Universitas Indonesia*

**236: Interpersonal Forgiveness Intervention on Forgiveness and Emotional Regulation for Taiwanese College Students**

*Weifen Lin*

*National Hsinchu University of  
Education*

## The Posttraumatic Growth Of University Students

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### ABSTRACT

This survey research aimed at studying the posttraumatic growth among university students in 2012 in order to compare the posttraumatic growth on the gender, faculty, year of study, family status, relationships with friends and economic status. The population was university students. The sample was 130 undergraduate by Custer Random Sampling. Compare the posttraumatic growth in the gender, faculty, year of study, family status, relationships with friends, and economic status. Using t-test, one-way analysis of variance (One-Way ANOVA) and verify the differential pair by LSD. The results indicated that the posttraumatic growth (PTG) by gender and relationships with friends were statistically different at the .05. Female has higher scores than male and the sample group of high relationship has the highest scores of all. In the other hand the posttraumatic growth (PTG) by faculty, year of study, family status, economic status were not statistically different.

Keywords: The Posttraumatic Growth, University Students, Relationships With Friends

### 1. INTRODUCTION

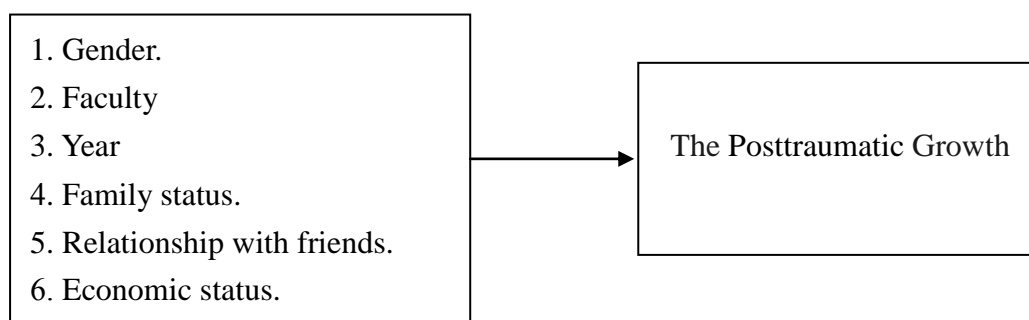
Changing new look of the world into globalization and free trade make global society more complicated which affect human behavior. Even the university students. Premporn Mansmur (BE 2545) said : Students of private universities adapted better on learning, or worried less than Public University students. Concerning with students' problems which were : the psychological pressure, the expectations of their parents, achievement in the field of higher education, relationship with friends and people from different gender, economic status, years of study and faculties. Moreover, these sample were still considered as late adolescents to young adult who could become a high qualify adult when they grow up in the time of advanced science and high speed technology facilities. As the result, many adolescents who had exposure with the significant tragic and painful events can be affected with the emotional stress such as serious accidents, the disaster, war crimes and sexual abuse. Having bad experiences will affect them and can cause the posttraumatic stress disorder which affects the stability of life safety, an imprinting

of grief and loss. They can cause these psychological and physical symptoms: such as anxiety, depression, nightmares, sadden and it can develop into mental illness such as Posttraumatic Stress Disorder (PTSD) Depression Anxiety Disorder, whereas some students have positive psychological change and have the ability to cope with the post tragic and develop it into a Posttraumatic Growth Consistent. From the study of Pichaya Janbamrung (2011) the crisis facing the emotional experiences of university students and found that when students got through critical emotional experience with a wizard and only source of support, emotional stress is on strengthening and growing immune to the psychological health and maturity.

The researcher has been interested in studying the posttraumatic growth (PTG) of students in higher education in order to expand her knowledge and understanding in the face of the growing crisis.

**Research objective:** To study the posttraumatic growth of students in higher education and compare the posttraumatic growth by gender, year of study, family status, relationships with friends and economic status.

### Conceptual Framework



## 2. THEORETICAL BACKGROUND

The study of the posttraumatic growth (PTG).Has been discussed a great deal since 1990. From the study of Tedeschi and Calhoun (Tedeschi & Calhoun, 1996) they proposed that The Posttraumatic Growth Inventory (PTGI) was constructed and invented the test PTGI. In addition to Calhoun & Tedeschi (Callhoun & Tedeschi, 2004) pointed out that Empirical studies have increased in Western countries. McMillen (2004) recommend PTG phenomenon may be reliable only for American culture. Despite their cultural differences, and the way in which they practice influence the development of specific people or not. These sections also contain material that has not been studied. In addition to Kanyanart Suwanchatree (BE 2554) Studied the face of the emotional growth of the survivors of unrest in the southern provinces. The research findings support the concept that Survivors of the emotional experience can develop inner strength. And grow to maturity. If they have sufficient sources of support.

Roberts and Dutton (2009) said that the posttraumatic growth occurs from all the experience can not be clearly seen the grown of positive or desirable events. I believe that good things are happening. From the ability to manage separately.

Overall, the posttraumatic growth refers to the change. Significant positive transformation that occurs when a person is faced with a major crisis in their lives and

have overcome the crisis. Or subsequent struggle to deal with the stress. Loss and mental trauma. Or the face of the emotional. The positive change or growth of individuals to make their relationships better. There is a sense of joy in life. Development of a strong and stable mind. (Calhoun, Cann, Tedeschi, & McMillan, 2000; Tedeschi & Calhoun, 2004; Calhoun & Tedeschi, 2005; Tanja & Andreas, 2006)

### 3. MATERIALS AND METHODOLOGY

#### A. The research design

In order to answer the researched questions previously mentioned, it was essential to establish an empirical framework that guides the research process and focuses on the study intended to examine to get answers to the purpose of the study by the survey research.

#### B. The Study Sample

Population in this study was 192 students who enrolled in Sociology of Globalization Subjects in the first semester of the academic year 2012 at Sripratun University Chonburi Campus. The sample was 130 students who enrolled in Sociology of Globalization Subjects in the first semester of the academic year 2012 Sripratun University Chonburi Campus which researcher chose by Custer Random Sampling.

#### C. Measurement Construction

The research has brought the face of the the posttraumatic growth by Richard G. Tedeschi and Lawrence G. Calhoun used in this study. This scale has been translated and validated by experts for the quality. By the Branch Committee. Experts to examine the construct validity and content validity. A pilot study was try-out with 30 students who were not the sample. The reliability analysis of the instrument was completed which showed that the Cronbach's alpha reliability coefficient was 0.932, indicating that the instrument could be considered as a reliable tool to be used for the purposes of this study.

#### Data Analysis

The descriptive statistics was used to analyze the data collected for the study. In this step, simple descriptive statistics were attained to identify group by means and standard deviation for the posttraumatic growth. Comparison the posttraumatic growth by gender, the t-test was used. Comparison the posttraumatic growth by the year of study, family status, relationships with friends and economic status were analyzed by ANOVA (One-Way ANOVA) and checked out the different possible pairs using LSD; the statistically significant difference at ( $\alpha = .05$ ).

#### D. The results data analysis

The result of the study in the posttraumatic growth of university students were presented as the following:

Table 1 The data analysis introduction to the variable

<b>Independent variables.</b>	<b>Number</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>SD</b>
<u>Gender</u>					
Male	54	4.95	2.67	3.60	.53
Female	76	4.95	2.71	3.82	.57
<u>Total</u>	130				



<u>Faculty</u>						
Liberal Arts	31	4.95	2.76	3.80	.61	
Communicationa Arts	32	4.90	2.76	3.67	.59	
Law	30	4.95	2.67	3.67	.54	
Business Administration	37	4.95	2.71	3.76	.54	
<u>Total</u>	130					
<u>Year of study</u>						
1	32	4.90	2.71	3.63	.48	
2	34	4.81	2.67	3.65	.48	
3	30	4.95	2.67	3.88	.68	
4	34	4.95	2.76	3.76	.60	
<u>Total</u>	130					
<u>Family status</u>						
Together.	62	4.95	2.67	3.77	.64	
Separation	37	4.95	2.76	3.61	.50	
Divorce	31	4.81	2.95	3.79	.46	
<u>Total</u>	130					
<u>Relationships with friends</u>						
Low	31	4.43	2.67	3.49	.44	
Moderate	58	4.95	2.76	3.66	.51	
High	41	4.95	2.86	4.00	.62	
<u>Total</u>	130					
<u>Economic status</u>						
Low	33	4.95	2.95	3.66	.46	
Moderate	60	4.95	2.67	3.73	.59	
High	37	4.95	2.71	3.79	.63	
<u>Total</u>	130					

Table 2 Comparison of the posttraumatic growth by gender

The Posttraumatic Growth	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Male	54	3.60	.53	-2.150	128	.033
Female	76	3.82	.57			

Table 2 showed that the posttraumatic growth of students with gender were statistically significant at the .05 level, female higher than male.

Table 3 Comparison of the posttraumatic growth by faculty

The Posttraumatic Growth	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between the groups	3	.392	.131	.402	.752
Within the group	126	40.954	.325		
Total	129	41.346			

From the data in Table3 revealed the posttraumatic growth of Students with different faculty were not statistical significant different.

Table 4 Comparison of the posttraumatic growth by year of study

The Posttraumatic Growth	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between the groups	3	1.181	.394	1.235	.300
Within the group	126	40.166	.319		
Total	129	41.346			

Table4 indicated the posttraumatic growth of Students with different year of study were not statistical significant different.

Table 5 Comparison of the posttraumatic growth by family status

The Posttraumatic Growth	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between the groups	2	.702	.351	1.097	.337
Within the group	127	40.644	.320		
Total	129	41.346			

Table5 showed the posttraumatic growth of Students with different family status were not statistical significant different.

Table6 Comparison of the posttraumatic growth by relationships with friends

The Posttraumatic Growth	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between the groups	2	5.100	2.550	8.934	.000
Within the group	127	36.246	.285		
Total	129	41.346			

Table 6 indicated that students with relationships with friends have different the posttraumatic growth, and have statistical significant different at the .05 level so the comparison is with the LSD method in Table 6.

Table7 Verify the differential pair by LSD

The Posttraumatic Growth	<i>n</i>	Mean	Low	Moderate	High
			relationship	relationship	Relationship
			3.49	3.66	4.00
Low relationship	31	3.49	-	-.1757	-.5138*
Moderate relationship	58	3.66		-	-.3381*
High relationship	41	4.00			-

\* Statistically significant at the .05 level.

Table 7 presented that students from high relationship and low relationship was statistical significance at the .05. The posttraumatic growth of high relationship and moderate relationship has statistically significant at the .05.

Table 8 Compares the posttraumatic growth by the students by economic status

The Posttraumatic Growth	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between the groups	2	.317	.158	.490	.614
Within the group	127	41.030	.323		
Total	129	41.346			

From the data in Table 8 showed the posttraumatic growth of Students with different economic status were not statistical significant different.

#### 4. DISCUSSION

The results revealed that the posttraumatic growth (PTG) by gender, relationships with friends were statistically different at the .05. In the other hand the posttraumatic growth (PTG) by faculty, year of study, family status, economic status were not statistically different. The findings was confirmed with the hypothesis. The sample with a high level of relationships between the scores on the posttraumatic growth conditions relationships were critical to students with moderate and low. These observations support the maintenance of Kanyanart Suwanchatree (2011) Studied the posttraumatic growth of the survivors of unrest in the southern provinces. The research findings support the concept that survivors of the emotional experience could develop inner strength, and grew to maturity. If they have sufficient sources of support. The results in the appearance of the posttraumatic growth support the concept of Tedeschi and Calhoun (1996) argued that the nature of growth after the depression was the result of a mentally to handle the event of the removal, suffer and enable individuals to change (1) self-awareness, with a positive view and the development of strong emotional stability, (2) interact with closely, especially the relationship with the family, the benefits of social support and confidence in managing relationships with others, and (3) the main anchor or philosophy of life, recognizing the religious and philosophical beliefs in his or her life.

A student has a different economic status not impact the posttraumatic growth different. The findings in this article are based on assumptions. This may be due to the involvement of the financial economy. This may not impact directly on the face of the posttraumatic growth. Consistent with the research of Calhoun and deschi (2006) The growth of the individual after the event, the crisis include: (1) recognizing the potential in themselves. Better relationships with others, (3) the strength within yourself to appreciate life more (5) productivity in mind. Which is not related to economic status.

The results showed that gender was a factor in the relationship with the posttraumatic growth. Female has higher scores than male. As a result, this research suggested that for further investigated whether other factors may affect the growth of the face of a crisis such as a field in family interaction, parenting style, interaction between the student and the instructor could affect growth after the crisis facing or not. There may be more various variables that can be used facing

growing developmental crisis for some benefit on development of society.

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## A Psychosocial Attachment Study of Depression in Taiwanese Women

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### 1. INTRODUCTION

Substantial progress has made in researching depression in relation to inter-personal vulnerability and low self-esteem models (Brown et al, 1990a). The models also extend to childhood adversity as an early life risk, with the inclusion of Attachment theory as a framework for understanding risk development (Bifulco et al, 2002) This model has been developed in the UK and applied in Europe and the USA (Kessler et al, 2003) but has been little utilized in the Far East.

### 2. AIMS

The project examines a range of psychosocial risk in relation to depression in Taiwanese women comparing those married and those single. It aims to replicate and extend UK-based attachment models in the Taiwanese context and culture. Both negative childhood experiences, adult relationships insecure attachment style and low self-esteem are tested in relation to depression.

### 3. RESEARCH METHOD

Questionnaire measures include demographics, GHQ-12 (Goldberg 1978), Self Esteem (Rosenberg, 1965) Vulnerable Depression Questionnaire (Moran & Bifulco 2003), Dyadic Adjustment Scale (Spanier, 1976), Vulnerable Attachment Style Questionnaire (Bifulco et al 2003), Childhood Experience of Care and Abuse Questionnaire (Bifulco et al, 1994) and 8 questions of relationship with in law and birth family. Interview measure is Attachment style interview (Bifulco, 2002)

### 4. PARTICIPANTS AND ANALYSIS

Seven hundred and twenty one questionnaires have been collected online and 12 respondents with different attachment styles and characteristics have been chose for Attachment Style Interview (ASI, Bifulco et al 2002) Correlation, factor analysis and logistic regression have been used to exam quantitative data and case studies of Interviews exploring details of attachment behaviour and family relationship of Taiwanese women.

### 5. SUMMARY OF FINDINGS

- 36.6% of women had depression; significantly more single women
- Negative self esteem and age under 30 provide the best model of depression for single women
- Poor care in childhood, thoughts of partner separation, insecure attachment style and negative self esteem provide the best model of depression for women with partner.

- Qualitative analysis of case studies proves the quantitative findings and contextualizes culture background of Taiwanese women

## **6. DISCUSSION AND CONCLUSION**

The model developed in UK series of women was confirmed in a Taiwan series for women with a partner. However this did not hold for single women who had higher rates of depression. Here only self esteem was predictive of disorder. This suggests that further risk factors are needed to explain the model in the younger single women. Since many were in college or unemployed, further investigation or absence of role and poor sense of identity and inclusion in society needs examining. For married women cultural issues involve less weight on conflict as a risk factor and more role for family in law than is common in Western society.

## The Relationships of Teachers', Parents' and Peers' Autonomy Support and Students' Engagement in Mathematics

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### ABSTRACT

The aim of this study is to investigate the relationships between students' perceived parent autonomy support, teacher autonomy support, and peer autonomy support and students' engagement in mathematics. According to Self Determination Theory (SDT) (Deci & Ryan, 2000) individuals universally, regardless of their culture, are endowed with three basic psychological needs (for autonomy, competence, and relatedness), the fulfillment of these needs promotes optimal functioning. While the need for relatedness and competence are widely researched within psychology and relatively acceptable to many theorists, the need for autonomy remained controversial and debatable (Chirkov, 2011; Ryan & Deci, 2000; Vansteenkiste, Lens, Soenens, & Luycks, 2006). Based on previous studies (Furrer & Skinner, 2003; Niemiec & Ryan, 2009; Reeve, 2006; Reeve, Jang, Carrell, Yeon & Barch, 2004) this study is hypothesized that teachers', parents' and peers' autonomy support influence students' engagement. This current study was conducted as a preliminary research on autonomy and autonomy support in Indonesia. The sample of 140 grade 10th students (62% female, age 14 – 16 years old) from two high schools in a rural area in Depok - neighbor city of Jakarta, Indonesia – completed Autonomy Competence Relatedness Support Scale (ACRS Scale) developed by Chirkov, Ryan, and Willness (2005) for assessing the variable of autonomy support and Fredricks, Blumenfeld, Friedel, and Paris' (2005) School Engagement Scale was utilized to assess the students' behavioral, emotional, and cognitive engagement. Descriptive and correlation analyses of the data partly supported the hypotheses. Teachers' and peers' autonomy support significantly and positively correlates students' engagement in mathematics. Parents' autonomy support was not found to be associated with students' engagement in mathematics. Additional finding showed that there was gender differences in engagement in mathematics. Girls significantly are more engage than boys in the classroom mathematics task. Limitations and further research is discussed.

Keywords: autonomy, autonomy support, basic psychological needs, self determination, students' engagement.

### 1. BACKGROUND OF THE STUDY

Engagement refers to the behavioural intensity and emotional quality of a person's active involvement during a task (Connell, 1990; Connell & Wellborn, 1991). Engagement has an important role during adolescence that can promote or undermine future competencies and developmental pathways (Creed, Muller, & Patton, 2003).

Self-determination theory (SDT) guides many researches on classroom conditions that foster versus undermine students' positive functioning (Reeve, 2006, p.226). According to SDT (Deci & Ryan, 2000) individuals have three innate psychological needs; the needs for autonomy, competence, and relatedness that very essential for

facilitating self motivation and optimal functioning. Satisfaction fulfillment of the three basic psychological needs brings individuals to experience intrinsic motivation, better health, optimal growth and greater well-being (Ryan & Deci, 2000). On the other hand, thwarted satisfaction of these needs results invariably in negative functional consequences for mental health and for future performance (Deci & Ryan, 2000). The need for relatedness and competence are widely researched within psychology and relatively acceptable to many theorists. The need for autonomy is still arguable that autonomy represents a Western individualistic value and therefore is not a basic need that can be applied universally for functional significance across cultures (Chirkov, 2011; Iyengar & Lepper, 1999; Oishi, 2000; Vansteenkiste, Lens, Soenens, & Luycks, 2006).

Autonomy is the experience of being the author and origin of one's behaviour. It refers to individual's sense of control and responsibility over their actions (Ryan & Deci, 2000). In classroom learning, when students experiencing a sense of autonomy, they are less likely to drop out of school, have greater creativity, deeper learning, less superficial information, higher achievement and enhanced well-being (Vansteenkiste, Lens & Deci, 2006). Students will learn autonomously when the environment support their basic psychological needs (Reeve & Assor, in Chirkov, Ryan, & Sheldon, 2011). Thus, people may function positively in a kind important ways when environments nurture and support their need for autonomy and they function relatively poorly when their environments frustrate their need for autonomy (Assor, Kaplan, & Roth, 2002; Black & Deci, 2000). Therefore, learning environment that support autonomy is salient for students learning.

Autonomy support means taking the perspective of the individual, welcoming and inviting individuals thoughts, feelings, decisions, and actions, and supporting individuals' personal development and capacity for autonomous self regulation (Reeve, 2009, in Chirkov et al., 2011, p.119). Interpersonal relationships play an important role to make people autonomy supportively to each other. A study conducted by Marchant, Paulson, & Rothlisberg (2001) confirmed the important role of relationships among parents, teachers, and peers that take part on early adolescents' school engagement.

The role of parent, teacher, and peer autonomy support towards students engagement have been found through many studies (e.g. Furrer & Skinner, 2003; Niemiec & Ryan, 2009; Reeve, 2006; Reeve, Jang, Carrell, Yeon & Barch, 2004). Teachers who are autonomy supportive are able to facilitate their students' positive potentials and development outcomes because they have ways to make students involve and satisfy their psychological needs (for autonomy, competence, and relatedness) during instruction (Hardre & Reeve, 2003; Reeve, 2002). Autonomy-supportive parenting revolves around involving and nurturing (rather than neglecting and frustrating) students' psychological needs, personal interests, and integrated values (i.e., their inner motivational resources; Grolnick, 2003). When parent sensitive to his/her child behaving, they are being autonomy-supportive since it allows their child to behave or act in ways that fit their internal dispositions, including their preferred activities, preferred pace of instruction, and preferred way of doing things. Peer relationships and autonomy support also has a contribution on students' engagement (Furrer & Skinner, 2003; Van Ryzin, Gravely, & Roseth, 2009).

Considering the report from Indonesia Ministry of National Education, students dropout rates in 2009/2010 was 3.27% at high school level (<http://www.psp.kemdiknas.go.id>) and the concept of autonomy which is still



debatable across culture, the current study objective is to investigate the relationships between parents', teachers', and peers' autonomy support and students' engagement in mathematics based on SDT framework. Mathematics is a major subject that students should master through the whole years in high school in Indonesia, being used as to measure students engagement. Three hypotheses are tested; (1) Parents' autonomy support is associated with students' engagement in mathematics, (2) Teachers' autonomy support is associated with students' engagement in mathematics, (3) Peers' autonomy support is associated with students' engagement in mathematics. Data were collected from 10th grade high school students, to get more information toward students' engagement in older adolescent.

## 2. METHOD

### *Participants and Procedure*

The total sample consists of 140 students; 53 boys and 87 girls, age ranged from 14 to 16 years old (mean = 15.41 years). They were 10th grade students from two state high schools (70 participants each) in Depok, neighbor city of Jakarta, Indonesia, and they participated on a voluntary basis. Selection of the schools as a sample based on convenient location to get a preliminary study of the role of students' perceived autonomy support towards engagement in classroom activities. All participants filled the questionnaires in their classrooms. They took approximately 40 minutes to finish the questionnaires including demography data such as age and gender.

### *Measures*

The questionnaires consist of two scales which are *Autonomy, Competence, and Relatedness Support Scale* (Chirkov, Ryan, & Willness, 2005) and *School Engagement Scale* (Fredricks, Blumenfeld, Friedel, and Paris, 2005).

### *Teachers', Parents', and Peers' Autonomy Support*

To assess students' perceived autonomy support from teachers, parents', and peer, the present study translated ACRS Scale (Chirkov et al., 2005) in English into Bahasa Indonesia. The scale is in five Likert style with 1 is strongly disagree to 5 is strongly agree. Scale consists of 15 items of three dimensions, the need for autonomy, need for competence, and need for relatedness (5 items each). There are three ACRS Scale to be completed by participants, those are for parents, teachers and peer. The internal consistency for parents scale was 0.875, for teacher was 0.732, and for peers was 0.863.

### *Students' Engagement*

*School Engagement Scale* (Fredricks, Blumenfeld, Friedel, and Paris, 2005) was used to assess students' engagement and adapted into mathematics learning environment in Indonesia. Present study used 17 items (out of 19 from the original scale), due to low inter item correlated from behavioral dimension, two items were deleted. Internal consistency was 0.898. The students responded to each item on a 1 (*never*) to 5 (*all the time*) scale.

## 3. RESULTS

All analyses were performed using SPSS 19.0. The first part shows the main results of the study, and the second part is an additional findings related to students' gender differences in students' engagement in mathematics.

Table 1 contains means, standard deviations, internal consistency, and intercorrelations for all variables. Students' engagement in mathematics mean scores was above the midpoint (midpoint scale = 3). It means that the students actively engage (behavior, emotion, and cognitive) in the math classroom activities. Perceived students autonomy support experienced from satisfaction of basic psychological needs that their parents and peers provide were above the midpoint for their respective scales. However, students perceived teachers' autonomy support mean scores was almost reach the midpoint. The adolescents in this sample felt that their parents and peers were more than enough satisfied their basic psychological needs and support their autonomy. Whereas autonomy support from teachers is perceived not satisfied close to indifferent.

Pearson correlation is used to assess the relationships between students' perceived autonomy support and engagement in mathematics. Results found that teachers' and peers' autonomy support and students' engagement in mathematics significantly and positively correlated ( $r = 0.465$ ,  $l.o.s 0.05$ ;  $r = 0.172$ ,  $l.o.s 0.05$ ). Present study did not find relationships between parents' autonomy support and students' engagement in mathematics.

Table 1. Descriptive statistics, internal consistencies and intercorrelations of engagement in mathematics, parents, teachers, and peer's autonomy support

	M	Mi n.	Ma x.	SD	Cronbac h's Alpha	1	2	3	4
1.Parents	3,4 3	1,6 0	4,6 7	8,68 88	0,875	1	,254* *	,286 **	<b>,123</b>
2.Teachers	2,9 7	1,9 3	3,8 7	5,64 4	0,734	,254* *	1	,371 **	,465 **
3.Peers	3,3 8	1,8 0	4,4 7	7,51 2	0,863	,286 **	,371 **	1	,172 **
4.Engage ment	3,5 0	1,8 2	4,7 7	10,5 94	0,898	<b>,123</b>	,465* *	,172* *	1

Note: N = 140

\*\* $p < .05$

Additional result found that there was a significant differences between boys and girls in engagement. T-test for Equality of Means showed that girls are more engage than boys in mathematics (see table 2).

Table 2. Independent samples test of students' gender

Sex	N	Percentage	Mean	SD	Significancy (t)
Engagement	53	37,6%	3,32	10,286	-2,851
Male	87	62,4%	3,63	10,540	P = ,004
Female					(p<0,05)

#### 4. DISCUSSION

The present study examined whether student perceived parents', teachers' and peers' autonomy support was associated with students' engagement in mathematics. Considering the literature about SDT's implication in different cultures, the results partly supported the hypotheses (hypotheses 2 and 3) and confirmed previous SDT studies, that students perceived teachers' and peers' autonomy support were associated with their engagement (Furrer & Skinner, 2003; Niemiec & Ryan, 2009; Reeve, 2006; Reeve, Jang, Carrell, Yeon & Barch, 2004). Interesting finding emerged in the current study that parents autonomy support was not related to students' engagement. Entering adulthood, youngster are developing relationship with others than his or her family such as peers and other adults outside the family looking for greater autonomy and self- determination (Zimmer-Gembeck & Collins, 2003). Therefore, it is understandable that teachers and peers are important for older adolescents (15-16 years old) as the agents that provide support the needs for autonomy, competence and relatedness. Furthermore, related to mathematics subject matters, the role of parents as epistemic authorities diminishes as children goes older (Raviv, Bartal, Raviv, & Houminer, 1990). Students' needs for competence in mathematics might not be fulfilled by parents, but teachers and peers.

The current study additional result confirmed previous studies that there was gender differences between boys and girls in engagement (e.g. Goodenow, 1993). Girls showed higher behavioral, emotional, and cognitive engagement than boys.

The present research was the preliminary study of autonomy in Indonesia, methodological limitations thereof is needed specific attention in interpreting the findings of this research. The number of participants should be expanded and mixed methodology concerning quantitative and qualitative inquiry is suggested to get more comprehensive results in further studies.

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## The Creative Process During Composing in Classical and Jazz Professional Piano Musicians

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### **ABSTRACT**

Creativity is needed when a musician composes music. This study wants to identify the creative process classical and jazz professional piano musicians go through when they compose music. Since classic and jazz are different genre of music, it would be interesting to find out whether the creative process underlying the composition would be the same. Wallas's model of creative process (in Hickey and Webster, 2001) is used as the theoretical framework of this study. Altogether, four participants who are professional musicians took part in this study: two of them are the classical piano musicians and the other two are jazz piano musicians. The results show that there are no differences in the participants' creative process regardless of their music genre. However, differences occur in how they appreciate their music and how they act it out. This study has some important implications for preparing composers to be, both in classical and jazz piano music.

Key words: classical professional piano musician, jazz professional piano musician, creative process, composition

## **Interpersonal Forgiveness Intervention on Forgiveness and Emotional Regulation for Taiwanese College Students.**

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### **ABSTRACT**

The purpose of this study was to explore the effect of forgiveness intervention with college students who have been hurt in interpersonal offense in Taiwan. This study investigated whether a forgiveness intervention could be effective in participants' forgiveness and emotional regulation. The forgiveness intervention of this study is based on an interpersonal forgiveness process model which were organized around the Enright twenty psychological processes of forgiveness, and Taiwanese culture.

Enright process model contains four phases and twenty units (Enright & Fitzgibbons, 2004). The first phase is the uncovering phase. Here the person examines the depth of anger, resentment, and psychological pain. This phase includes (1) the examination of psychological defenses; (2) Anger needs to be confronted with the intention of releasing it; (3) Shame needs to be admitted; (4) Being aware of cathexis, which is an attachment of excessive emotional energy to the hurtful event; (5) Aware of cognitive rehearsal, which is the replay of the hurtful event over and over in one's mind; (6) Comparing one's distress with the perceived better condition of the offender's life; (7) Confronting the fact that one may be permanently and adversely changed by the injured; (8) Being aware of undeserved psychological pain.

The research recruited 10 experimental and 10 alternative treatment participants in a Taiwan college, who voluntarily participated in this study. The participants were randomly assigned to either the experimental group. Each group of students received treatment, in a group intervention with the researcher. The researcher had over 20 years of experiences on counseling. The researcher has the experience to teach both the forgiveness intervention and school guidance program. The participants began their intervention immediately after pretest. One-way ANOVA were used to test the hypotheses on the three independent variables for the effects of treatments. Before the participants had the intervention, they were administered these the Enright Forgiveness Inventory and the Emotional Regulation Inventory.

The forgiveness intervention (experimental group) was organized around the twenty psychological process of forgiveness. The treatment group intervention was a knowledge-based and support-based school guidance program.

The results showed that the experimental group, compared to the alternative treatment group had significantly greater gains in forgiveness ( $F=6.43, P<.05$ ) and emotional regulation ( $F=1.01, P<.05$ ). In other words, the more a person forgave, the more emotional regulation he or she had. This result indicates that the forgiveness intervention is effective in treating the adolescents who have been hurt in interpersonal offense.

This study contributes to research on the effects of forgiveness intervention toward interpersonal injured adolescents. It has the potential to impact the science and practice of psychotherapy, especially middle school counseling and therapy. This study provides empirical information for professionals who are willing to try a new approach in Taiwan.

Keywords: emotional regulation, interpersonal forgiveness



# Psychology IV

13:00-14:30, December 16, 2012(Room 2)

**Session Chair:** *Julia Suleeman*

**249: Reconstructing Middle Age Javanese Mature Woman Happiness through Social Representation Theory**

*Nur Hasanah*

*Brawijaya University*

**251: Resilience of the Javanese Survivors from Merapi Mountain**

*Julia Suleeman*

*Universitas Indonesia*

*Guritnaningsih Amir Santoso*

*Universitas Indonesia*

**255: Protective Factors in Resilience of Aceh Tsunami Survivors**

*Julia Suleeman*

*Universitas Indonesia*

*Guritnaningsih Amir Santoso*

*Universitas Indonesia*

**276: Students Self Concept and Social Support to Enhance Students Success**

*Wuri Prasetyawati*

*Universitas Indonesia*

*Miranda Diponegoro Zarfiel*

*Universitas Indonesia*

## **Reconstructing Javanese Middle Adult Women Happiness Through Social Representation Theory**

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### **ABSTRACT**

This article means to describe how middle age Javanese mature woman define happiness from social representation perspective. This article is based on Javanese woman's perception that the definition of happiness may be vary depend on the person itself. It is stated that happiness may comprehend related with the representation which is developed in society. A definition of happiness may define differently by people based on discussion and disputation which is develops in society. Is the academic analysis about happiness is different or run parallel with knowledge that developed by most Javanese people?. On the other hand, middle age mature as a part of human developmental phase have special characteristic which is this phase is a precise time to do self evaluation about our life right now or later. The achievements of every developmental task which is consist of the adjustment about every alteration in life along with self evaluation to every aspect in life that happen in the past or present bring a middle age mature individual in a certain condition as stated by Havighurts as a happiness and also facilitating middle age individual in order to succeed in fulfilling a developmental task in next phase; an old phase. There is no doubt that culture brings values and rules to people. This values effecting on every individual' culture when they have to behave i.e. in a Javanese culture society. Every group though different in gender will control their group in a certain condition. i.e. middle age mature woman is taught to be polite to other. In a Javanese culture, many behavior were adjust from Javanese ancient book that made by arrange it with the past. Meanwhile a woman human life today is differ by the past, today woman face by the development of technology, politic and right to study. Therefore there will be a slip in a middle age woman including in defining happiness.

Keywords: happiness, Javanese Middle Adult Women, social representation

### **1. INTRODUCTION**

One of the human goals is to reach happiness and it is inevitable that all people want to have it. King and Napa (King, 2001) say that happiness is a strong indicator to measure the good value in life. By feeling happy, an individual can enhance his/her creativity and productivity (Carr, 2004). Happiness makes humans want to continue living, do some activities, and even produce something.

There are many important aspects in life for adults; happiness is one of those aspects. As stated by Browne et al (Nofitri, without year), there are some important life-quality aspects for young adults, such as family, social and recreational activities, health, life condition, religion, freedom, finance, social relationship, occupation, and happiness.

It is also commonly known that the characteristics of one tribe would be attached

to the people coming from that tribe and will continue to be preserved from one generation to another generation (Rahardjo, 2005). One of the characteristics is how and what are the efforts of a tribe in achieving happiness and welfare. Compton (2005) argues that every individual has different ways in achieving happiness based on his/her own culture.

Oishi and Diener (2001) further state that what brings happiness in individualistic and collectivistic cultures are very different. People in individualistic cultures find happiness if their self-esteem is increasing and they have freedom in doing something. Meanwhile, people in collectivistic cultures give more emphasis on harmony in life and on others' interest. Based on Oishi dan Diener's study (2001), it can be seen that happiness can be achieved if an individual can live a life based on the values in his/her cultures.

## **2. JAVANESE MIDDLE ADULT WOMEN**

An individual can enter the mature stage of development after he/she successfully completes the tasks in adolescence development. An individual who is entering adulthood is an individual who has a well-integrated self-identity and relatively stable personalities (Papalia, Olds, dan Feldman, 2009). According to Hurlock (1980), middle adulthood is in the age range of 40 to 60 years old. This middle adulthood is classified further into early middle age (40-50 years old) and advanced middle aged (50-60 years old).

According to Havighurst (Hurlock, 1980), there are four main categories of adult developmental tasks, which are, the tasks related to physical changes, the tasks associated with the change of interests, and the tasks related to family life. Havighursts (Agustiani, 2006) reveals that basically developmental tasks at each stage come from three main points, which are, the structure of an individual's biological or physical maturity (biological basis), stimuli or demands from the public, as well as the values and personal aspirations from the individual.

Markus et.al. (Papalia, Olds, & Feldman, 2009) say that relationship with others is the main key that affects the welfare of middle-aged individual. Thus, an important aspect of life for an individual of adult middlehood is a life aspect which is related to relationship with others (either in society, family, or friendship). Important tasks in this category include such things as relating to a spouse, adjusting to a spouse, adjusting to the elderly, and helping teenagers to become responsible and happy adults.

As a part of Javanese culture, Javanese middle-aged adult women are bound to cultural values about how to become a woman who is *njawani* (based on Javanese culture). Javanese cultures containing ethical and moral teachings for women were introduced by Paku Buwono IV through his work entitled "Serat wulang Putri" (Ratnawati et.al., 2005). The book explains how a princess or a royal woman should portray herself as a patrician woman having a characteristic of sensibility, patience, and surrender (*nrima* in Javanese). A Javanese woman is portrayed as a woman who willingly sacrifices and has compassion.

## **3. HAPPINESS**

Happiness is one of the concepts that become a part of positive psychology. Positive psychology is introduced and developed by Martin Seligman and Mihaly

Csikszentmihalyi in 2000 and it is believed that positive human functioning will make normal life more meaningful. Thus psychology is not merely used to treat mental disorder.

Theories of happiness can be categorized into three major groups, namely: (a) theories about the needs and satisfaction of goal achievement (needs and goal satisfaction), (b) theories of processes and activities, and (c) theories of genetic and personality disposition. The first group of theories reveal that happiness happens when tension is reduced (e.g. loss of pain, the fulfilment of biological and psychological needs). Pleasure Principle of Freud and Maslow's hierarchical model are examples of the first theory category. The higher the level of needs an individual can fulfil, the higher the degree of happiness he/she has, which is associated with the desire and what he/she has gained as well as what people associated with them have. In other words, happiness occurs if the requirements are met and the goals are achieved. Happiness is said to be an ultimate goal of all activities.

The second theory group reveals that happiness occurs if an individual is involved in an activity that attracts his/her attention and is appropriate to his/her own skill levels (Csikszentmihalyi, as quoted in Diener et.al., 2005). A study conducted by Cantor (Diener et.al., 2005) finds out the importance of active participation in the tasks of life as a source of happiness. When someone is involved in a particular activity for intrinsic reasons (for fun or preferred), he/she will achieve the highest level of happiness in his/her life (Sheldon et.al., in Diener et.al., 2005). Meanwhile, the third theory group reveals that happiness is relatively stable because it is influenced by both genetic and personality aspects (Diener et.al., 2005).

Seen from the perspective of human development, happiness as described by Havighurts can be achieved if the middle-aged adults can complete any developmental tasks that consist of adjustment to various changes accompanied by self-evaluation of all aspects of life that is being, or has been undertaken. This condition will make them easier to succeed in completing the developmental tasks in the later stage, that is the elderly stage.

In addition, the concept of happiness, according to Javanese cultures, is described by Ki Ageng Soerjomentaram in his teachings called "Kawruh Bagja Sawetah" or "Kawruh Jiwa" (Jatman, 2008). This doctrine was originally given to help the Javanese to remain happy even in a very difficult situation. Soerjomentaram (Jatman, 2008) further states that an individual can experience heaven (surga tabah/tatag) and feel peace if he/she understands his/her own desires which sometimes go up and down. An individual can feel happy if his/her feeling can be managed well because everything in this world should not be avoided nor pursued too furiously. Furthermore, Soerjomentaram (Jatman, 2008) teaches 6 sa, which consists of sabutuhe (as needed), saperlune (as necessary), sacukupe (as sufficient), sapenake (as you like), samesthine (as properly). If an individual can hold on these principles in his/her behaviour, he/she can live a proper life, not feeling sad or happy for too long, but only for a short while in each cycle.

#### **4. HAPPINESS AND SOCIAL REPRESENTATION**

Social representation is a system of values, ideas and actions, which have multiple functions. The functions are intended to construct each individual to adjust and understand (and control) the physical and social environment (Moscovici, in Bergman, 1998). Social representation is defined by Putra I.E. et.al. as the practical "rational"

way of thinking through social relationships using its own style and logic, which is then distributed to the members of the same group through daily communication.

A meaning of the word such as the word “happy” can be interpreted differently according to the discussion and debate developed in a particular context. It is possible that the concept of happiness by scientists will be different with the one in the public mind (common sense). The meaning of happiness, the factors influencing it, and the kinds of behaviors making an individual happy, are closely related to the representation which is growing in the common understanding of people.

According to Abric (Deaux and Philogene, 2001), social representations constitute a functional view that allows an individual or a group to give meaning and significance to their actions in order to understand the reality of life in accordance with the references they have, and to adapt to that reality. The implementation of Abric’s argument (Deaux and Philogene, 2001) is about how the concept of happiness of 6 sa that has been taught by Soerjomentaram will be interpreted according to the context and realities being faced by Javanese middle adult women. The example is the meaning of “sacukupe” (earn a living as needed) without ngoyo (beyond the limits). The question is whether in this modern era, the concept of “sacukupe” is defined as it is considering the fact that there is a shift in life orientation leading to materialization. This change is a logical impact of globalization and rapid development of technology accompanied by great exposure of information, all of which can change the perception and the perspective of an individual in giving the meaning of life, including the meaning of happiness itself.

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**Resilience of the Javanese survivors from Merapi mountain**

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**ABSTRACT**

Eventhough Indonesia has a variety of flora and fauna, the geographical location presents a lot of disaster potentials, caused mostly by the 130 active volcanoes. One of the most active is Mount Merapi, located in central of Java island, which its major eruption occurred since the year 1006. In the year 2010, a series of eruption started before the major eruption occurred in November, and until now, small eruptions still occur. However, the people in the area choose to stay living there at the risk of their own lives. This particular study aims to understand this phenomena, using Wagnild's (2010) framework of resilience that consists of 5 dimensions : meaningfulness, perseverance, equanimity, self-reliance, and existential aloneness. Altogether 60 participants, ranging from 17 – 57 years old, all live within 5 kilometer from Mount Merapi, took part in the study. Connor-Davidson Resilience Scale and interviews were used to identify the pattern of resilience across age groups. Results show the influence of Javanese cultural norms in their resilience conceptualization. This study has important implications for future research and the understanding of Javanese culture that characterized the participants' resilience.

Keywords: Resilience, Javanese cultural norms, Mount Merapi

**Protective factors in resilience of Aceh tsunami survivors**

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**ABSTRACT**

From all areas affected by tsunami in December 2004, Aceh in northern part of Sumatra island, Indonesia, suffered the most in terms of the environmental devastation, the total number of deaths, and the homeless and jobless status faced by the survivors. After the 2004 tsunami, several earthquakes of lesser Richter scale still occur until now, but fortunately do not destroy as much. However, the geographical condition of Aceh area brings potential earthquakes and tsunamis in the future, that affect the psychological condition of the people living in Aceh. In such condition, resilience is needed as “an ability to bounce back and even to grow in the face of threats and survival” (Reish, 2006). This study aims to identify the protective factors underlying the resilience of Aceh adult tsunami survivors. Altogether 30 adults participated in the study that used Wagnild’s (2010) dimensions of resilience: meaningfulness, perseverance, equanimity, self-reliance, and existential aloneness. In addition, Aceh cultural values are also identified as protective factors contribute to the participants’ resilience ability. The implications of the study are important for the healing programs for the tsunami survivors.



## **Students' Self Concept and Social Support to Enhance Students' Success**

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### **ABSTRACT**

The freshman year of college is usually acknowledged as a stressful time of social and academic adjustment. During this period, first-year students face many social and intellectual challenges. One factor that has been carried over from high school that affects students' attitude toward their academic adjustment is the self concept (Boulter, 2002). Self concept has an important role in the growth and development of a person. Self concept is an individual perception of him, contains a set of beliefs and feelings of the individual against himself, contains of descriptive and evaluative aspects, and formed through experience and individual interpretation of the environment. As well as self concept, high level of social support also affects how a student enjoys his college life. Parker and Asher (1987) also says that teens who do not feel accepted by their peers are at risk of having poor psychological functioning, whereas, adolescents who have a close relationship stable, and supportive to people they considered to be important emotionally will have more good opinions about themselves, have performed well in school, sociable and not prone to anxiety, depression or hostility (Berndt & Perry; Buhrmester; Hartup & Stevens; in Papalia et al, 2004, p. 447). Individual affective relationships can be perceived by the individual as social support received (perceived social support). Zimet, Dahlem, Zimet, and Farley (1988) defines social support as an individual's perception of the behavior of support from people in their social environment, in which the individual perceives that he has people who are always there (available) when he had a tough time (Kraus, 2007).

This research studies on how well the self-concept as the internal factor and social support as an environmental factor in freshman in achieving his goal in university. This research will be a preliminary study for a longitudinal study about the contribution of self concept and social support in enhancing students' success within two years of college life and whether self concept or social support that has bigger contribution to students' success, as well. The preliminary study conducted on 1200 freshmen of the Universitas Indonesia in the beginning of their college life. The results of this study are expected to help new students to know themselves well in order to prepare for survive and success. Result shows that self-concept and social support can be expected to help the successful achievement of freshmen. The longitudinal study is being prepared based on some findings on this research.

Keyword: self concept, social support, college students.

# Psychology V

14:45-16:15, December 16, 2012(Room 2)

**Session Chair:** *Prof. Yang Lee*

## **302: Phonological Processes Elicited by Parts of Chinese Character**

*Yang Lee*

*Gyeongsang National University*

*Jeongran Noh*

*Gyeongsang National University*

## **335: Developmental Types of Religious Attitude in Life**

*Yang Lee*

*Gyeongsang National University*

*Jeongran Noh*

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## **341: Perceptions of Research Activity among Clinical Psychologists in Singapore**

*Nenna Ndukwe*

*James Cook University Singapore*

*Samuel Chng Chong Wei*

*James Cook University Singapore*

*Jonathan Raphacis Chua*

*James Cook University Singapore*

## **519: Personality Traits and Cultural Adjustment of the Foreign Students of Southwestern University**

*Ma. Kathleen Campos Tiglao*

*Southwestern University*

## **184: Personality Traits and Cultural Adjustment of the Foreign Students of Southwestern University**

*Imelda Sindo Lagrito*

*Southwestern University*

*Ma. Kathleen C. Tiglao*

*Southwestern University*

## Phonological Processes Elicited by Parts of Chinese Character

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### ABSTRACT

Chinese characters are classified as logographic scripter (Hill, 1967). So it is commented, according to orthographic depth hypothesis, for Chinese character to be processed in non phonological route, compared with other scripts which have orthographical transparency between sound and spell as Korean Hangul, to be processed in phonological route. In contrast, it is suggested, for every script to have developed for phonological rebus, inevitably to be processed in phonological route (Coltheart, Rastle, Perry, Langdon, & Ziegler, 2001). The experiment in this study with Chinese character tried to find some evidences, for non-phonological processes, and if possible, for phonological processes, and to show the parts for each processing type, inherited in Chinese character.

The experiment was designed to manipulate sound-parts, as 羊 of 洋 to make 2 by 2 conditions; P=Y, P≠Y, P=N, P≠N (P abbreviated from phonological part, = from sameness between prime and target, ≠ from non-sameness, Y from positive response, and N from negative response), which were treated for the sound matching (Y or N) between the prime and target.

In the experimental results, P=Y showed faster latency than P≠Y and P=N showed slower latency than P≠N in the sound matching. This strait suggested that Chinese characters were processed not only in non-phonological rout, not predicted by orthographic depth hypothesis (Katz and Frost, 1992), but by phonological precedence theory (Lukatela and Turvey, 1998). The phonological process was elicited by the phonological part of character even in logographic Chinese characters (Lee, & Lee, 2009; Perfetti, Zhang, & Berent 1992).

Key words: Phonological processes, Non phonological processes. Orthographic depth.

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## Developmental Types of Religious Attitude in Life

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### ABSTRACT

People have religion, going to Church or other temples, with diverse purposes which are differentiated in life development. The religious purposes are like ethical dilemmas as some development psychologists propose (Kohlberg 1969). One of religious reason is to deal with social crisis across whole life span as some social psychoanalytic theories (Erikson 1950). This study invented a questionnaire to survey people's attitude in religious dilemmas which would be experienced in whole life span. Religious attitude was constructed with religious dimension as humanistic, cognitive, and mental, and religious purposes as salvation and afterlife, and blessing and punishment. With religious attitude questionnaire, people's personality (MMPI etc) and socio-information (age, sex, socio-level etc) were related analyzed

In the survey results, personal religious attitudes were distributed in three dimensions from factor analysis; one was leveled with the extreme of divine or humanistic, another with cognitive or affective, and the last with mental or material. Religious attitudes were differentiated with types of traditional religion (Buddhists Christians), age stages, and education levels. For atheists and Buddhists, higher ages and higher education showed religious attitude more humanistic and more cognitive. But for theists and Christians, higher ages showed religious attitude more affective. Also religious attitudes were related with personality profiles. Higher anxiety showed more divine and more affective.

Keywords: Religious attitude, Religious dimensions, Religious purposes

**Perceptions of research activity among clinical psychologists in  
Singapore:  
An exploratory study**

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**ABSTRACT**

Studies in the USA & UK indicate that few clinical psychologists manage to be research active post qualification, despite the importance of research in the advancement of clinical psychology. However, little is known about the situation in Asia where clinical psychology continues to be a growing profession. This study sought to explore perceptions of research activity from the perspective of clinical psychologists in Singapore.

To gain a more in depth understanding of the research topic a qualitative approach was employed using interpretative phenomenological analysis (IPA) and semi-structured interviews, with a purposive sample of six clinical psychologists in Singapore.

Preliminary findings indicate that research is perceived as an important component of the profession. Research activity was construed to include research projects, research supervision, publications and conference presentations. Personal interest in research, the work setting, and research training facilitated opportunities for undertaking research activity. In contrast, low confidence, time constraints, disinterest in research and limited support for the scientist practitioner role within the local cultural context, were seen as barriers to research activity.

The findings provide a deeper understanding of research activity as perceived by a group of clinical psychologists in Singapore. Implications for practice in academic and clinical settings include, enhancing the research training for clinical psychologists, providing opportunities for mentorship, and encouraging attempts to increase the profile of clinical psychologists as scientist practitioners in Singapore. These implications for action will also have relevance to clinical psychologists internationally.

**Keywords:** Perceptions, Research activity, Clinical psychologists, Singapore

**PERSONALITY TRAITS AND CULTURAL ADJUSTMENT OF THE  
FOREIGN STUDENTS OF SOUTHWESTERN UNIVERSITY**

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## 1 INTRODUCTION

### 1.1 Rationale of the Study

Foreign students share experiences of culture adjustments and transitioning while pursuing their studies in another country. No matter how well we prepare them before their arrival they are still bound to cultural adjustment.

Culture obviously reflects one's personality traits and foreign students are confronted with several cultural adjustments. Whereas, people from other cultures tend to be "process being" (stress on who you are) and group oriented. To some, being friendly is a goal to be able to adjust culturally.

Personality traits of an individual reflect on his uniqueness as a person and that he has a consistent personality. He also believed that a person has various types of traits. It could be individual, common, cardinal or central traits. On the other hand, there is also what we call secondary traits and are often not exhibited.

In Southwestern University we have a number of foreign students enrolled in different academic degree programs. Right now, a total of 24 different nationalities represent the foreign students.

The study explored on the different personality traits of the foreign students and how they also adjusted to our culture while they are studying. Most foreign students in the university are being mistaken as overly confident, assertive, and vocal about their observations in the classroom, sexual relationship, and others. Thus, this study was conceptualized to be able to assess their personality traits and establish a relationship with their personal background. Moreover, the researchers would like to discover how they adjust as a student in the university. With the findings of the study, the researchers will formulate an intervention scheme.

### 1.2 Theoretical Background

This study is anchored on the theory of Raymond Cattell's 16PF, who claimed that the study of personality passed through two earlier phases before reaching its current scientific status. "From biblical times until the early nineteenth century," he wrote "it was a matter for intuitive insights expressed in the realm of literature," marked by such giants as Plutarch, Bacon and Goethe. Then came a century of clinically oriented theorists (Freud, Adler and Jung), with some experimental work (Jung and McDougall). Ever since World War I, the study of personality has been in the third, "experimental and quantitative" phase. Cattell saw his work as building on the valuable insights of earlier theories but subjecting them to independent judgement on

the basis of modern methods (Cloninger, 2008).

Cattell viewed personality as a complex and differentiated structure of traits with its motivation largely dependent upon a subset of these. Traits may be divided in terms of the modality through which they are expressed. If they are concerned with setting the individual into action toward some goal, they are dynamic traits. If they are concerned with the effectiveness with which the individual reaches the goal, they are the ability traits. Or they are may be concerned largely with constitutional aspects of response such as speed, energy, or emotional reactivity, in which case they are referred to as temperament traits.

Cattell's theory was also the proponent of the Big Five Factors and their constituent traits can be summarized as openness, conscientiousness, extraversion, agreeableness, neuroticism.

The theory of Surenson (1999) as cited by Schaefer, teaches that personality is that which permits of what a person will do in a given situation; or what different people will do in all kinds of social and general environment situations. Furthermore, he expressed that the detailed task of defining personality must await a full specification of the concepts that the theorist plans to employ in his or her behavior (Schaefer, 2005).

According to Sayeth (1997) personality traits have something to do with the distinguishing character or qualities of the individual. Individuals vary with their personality traits. Some traits are inherited from their parents. There are also traits that they acquire from the environment. Traits are very important because it shapes and molds the behavior of the individual.

Cultural transmission occurs when students receive their formal schooling in another nation. The US is a popular destination for college students from abroad each year, half a million foreign students enroll at US institutions of higher learning.

Psychologist Hans Eysenck, found that personality could be best described in terms of three major dimensions: extraversion, neuroticism, and psychoticism. The extraversion dimension relates to the degree of sociability, whereas, the neurotic dimensions encompasses emotional stability. Finally, psychoticism, refers to the degree to which reality is distorted. By evaluating people along these three dimensions, Eysenck was able to predict behavior accurately in a variety of situations (Feldman, 2008).

### **1.3 Review of Literature and Related Studies**

Literature and related studies are presented to establish the relationship of the researchers' study to conducted studies and published materials.

#### **Stages of Cultural Adjustment**

The majority of people studying, working, or living in a new and different culture undergoes cultural adjustment. Most students spend the first few days in the United States settling into apartments and "getting adjusted"; however, adjustment is not accomplished in a few days or even a few weeks. Adjustment is an on-going process demanded by one situation and then another. Gregory Trinovitch, a researcher and associate director of the Culture Learning Institute in Hawaii has identified four stages: The Honeymoon Stage, The Hostility Stage, The Integration Stage and The Home Stage.



Tweed and Lehman (2002) proposed a Confucian-Socratic framework, to analyze the influence of different cultural contexts on academic learning. Socratic-oriented learning involves “overt and open as well as private questioning and values respectful behavior.” Confucian- oriented learning effort-focused conceptions of learning, pragmatic orientations to learning, and acceptance of behavioral reform as an academic goal. Confucian philosophy has a strong impact on Chinese people's viewpoints, ways of thinking and behavior. He believed that success was mainly due to hard work rather than ability.

Mischel (1984) found that inconsistency across situation is pervasive; he found this not only the traits of honesty and conscientiousness, but also with other traits, such as aggression and dependency. Furthermore, different measures of what should be the same trait were often weakly correlated, or not correlated at all. (Kosslyn and Rosenberg, 2005).

In the study of Harrison, et.al. (1999), entitled “The Relationship Between Cross-Cultural Adjustment and the Personality Variables of Self-efficacy and Self-monitoring,” concluded that a primary determinant of expatriates' effectiveness is how well they adjust their behavior to function appropriately within a host culture. Because research suggests that the adjustment process may be highly related to certain personality variables. This survey of 99 American expatriates in Europe indicated that subjects with high general self-efficacy expressed greater degrees of general interactions, and work adjustments than those with low general self-efficacy ([www.sciencedirect.com/science/journal](http://www.sciencedirect.com/science/journal))

Robert Kohl (2001) stressed in his book entitled “Survival Kit for Overseas Living” that culture is central to the experience of living overseas. For Americans planning to live and work abroad, international students in the States certainly share similar experiences of cultural adjustments and transitioning while pursuing their studies. No matter how well the international students’ offices prepare the incoming students before their arrival, they are bound to experience some kind of cultural shock and, as a result, find ways to adapt and survive. Even for international students who have studied the English Language since kindergarten, they may still have difficulties, at least for a while, in listening and understanding American English in a cultural context. ([www.cgu.edu/pages/945.asp](http://www.cgu.edu/pages/945.asp))

## 2 THE PROBLEM

### 2.1 *Statement of the Problem*

This study aimed to determine the personality traits and cultural adjustments of the foreign students of Southwestern University.

Specifically, this study sought to answer the following questions:

1. What is the profile of the foreign students in Southwestern University in terms of:
  - 1.1 Sex;
  - 1.2 Age;
  - 1.3 Nationality;
  - 1.4 Program enrolled;
  - 1.5. Language spoken
  - 1.6. Length of stay in the university;
  - 1.7. Place where they are staying?
2. What are the personality traits of the foreign students of Southwestern University?
3. What cultural adjustment they are undertaking in these areas:
  - 3.1 Residence;
  - 3.5. Food;

- |     |            |      |                   |
|-----|------------|------|-------------------|
| 3.2 | School;    | 3.6. | Sexual Relations; |
| 3.3 | Friends;   | 3.7. | Hobbies?          |
| 3.4 | Classroom; |      |                   |
4. Is there a significant relationship between the profile and the cultural adjustment of the foreign students?
  5. Is there a significant relationship between the profile and personality traits of the foreign students?
  6. Is there a significant difference between the personality traits and cultural adjustments of the foreign students?

## **2.2 Hypotheses**

Ho1: There is no significant relationship between the profile and the cultural adjustment of the foreign students.

Ho2: There is no significant relationship between the profile and personality traits of the foreign students.

Ho3: There is no significant difference between the personality traits and cultural adjustments of the foreign students.

## **2.3 Significance of the Study**

Although relationship between these students has not been a problem in the university, isolated cases of conflict between foreign students and Filipino students can be minimized through the information provided in this study.

Foreign students will be guided to determine the common factors affecting their academic performance and such will lead them to recognize alternatives if there is a need.

Filipino students could assist foreign contemporaries in the provision of a wholesome environment despite the latter's socio- psychological and economic situations.

Teachers of foreign students will be enlightened on how to help the students cope and adjust with the Filipino educational system with consideration to their socio- psychological and economic limitations.

The school administrators will also benefit from this study because they may suggest a redirection and improvement of school policies and accommodation of foreign students who find it difficult to adjust immediately to the new setting in the school.

# **3 RESEARCH METHODOLOGY**

This study was anchored on studying the personality traits and cultural adjustment of foreign students enrolled in Southwestern University. The study used the descriptive-correlational method using the quantitative approach.

## **3.1 Research Design**

The study used the descriptive-correlational method using the quantitative approach.

The researchers used the purposive-sampling method in data gathering. Purposive sampling is one where the researcher starts with a large group of potential subjects. To be included in the sample, however, members of this large group must meet certain criteria established by the researcher because of the nature of the questions to be answered by the investigation.

### **3.2 Research Respondents**

Out of the 284 foreign students in the school year 2010-2011, only the second year foreign students have taken the personality test, which was administered by the guidance counsellors of the university. There were 52 second year students and only 44 became the respondents of this study.

### **3.3 Research Environment**

The research was conducted in Southwestern University Main Campus in Urgello Street, Cebu City. The university was founded in 1946. Presently it offers degree programs in the undergraduate, graduate and post-graduate levels.

### **3.4 Research Instrument**

The Sixteen Personality Factor Questionnaire (16PF) represents Dr. Raymond Cattell's endeavor to identify the primary components of personality by factor analyzing all English- Language adjectives describing human behavior. The 16PF Fifth Edition, although updated and revised, continues to measure the same 16 primary personality factor scales identified by Cattell over 45 years ago. Factor scales remain denoted by letters as a sign by Cattell, such as "Factor A", but they also are designated by more descriptive labels, such as "Warmth". The broad personality domains under which primary factors cluster are now called "Global Factors" instead of "Second- Order Factors," however, these domains still exhibit an underlying factor structure similar to that found previously, reaffirming Cattell's original findings.

The 16PF Fifth Edition contains 185 items that comprise the 16 primary personality factor scales as well as an Impression Management (IM) index, which assesses social desirability. Each scale contains 10-15 items. The tests, which can be administered individually or in a group setting, takes 35 to 50 minutes to complete by computer.

In addition to the primary scales, the 16PF contains a set of five scales that combine related primary scales into global factors of personality. The global factors historically have been called "second- order factors" in 16PF literature and result from a factor analysis of the test's primary scales. The global factors are the following: Extraversion, Anxiety, Tough-mindedness, Independence and Self-Control.

Another instrument used was the researcher-made questionnaire.

The first part consisted the profile of the respondents that included the sex, age, nationality, program enrolled, language spoken, length of stay in the university and where the students are staying.

The second part consisted of seven (7) questions with three (3) choices. Using the 4-point Likert scale, the respondents simply check their answer from strongly agree, agree, disagree and strongly disagree.

### **3.5 Research Procedure**

#### **Gathering of Data**

The researchers approached the college guidance counselors and asked if the 2<sup>nd</sup> year foreign students have already taken the personality test. Since the data was already available, the researchers were given a copy of the test result. The questionnaire constructed by the researchers was also administered to the identified foreign students who have taken the personality test.

### Treatment of Data

Simple percentage was used to determine the profile of the respondents based on their sex, age, nationality, program enrolled, language spoken, length of stay in the university and where the students are staying. To determine the level of cultural adjustment that the foreign students are currently experiencing, the weighted mean was used. The following is the parameter for the level of cultural adjustment:

Range	Description	Level
3.26 - 4.0	Strongly Agree (SA)	High
2.51 - 3.25	Agree (A)	Average
1.76 - 2.50	Disagree (D)	Low
1.0 - 1.75	Strongly Disagree (SD)	Fair

The following is the parameter for the personality traits, Global Factors:

Range	Description
4.31 - 5.0	Very High
3.51 - 4.30	High
2.71 - 3.50	Average
1.81 - 2.70	Low
1.0 - 1.80	Very Low

To determine the relationship between the profile and the cultural adjustment (of the foreign students) as well as the significant relationship between the profile and personality traits, Chi-square was used. T-testing was also used to determine the significant difference between the personality traits and cultural adjustment of the foreign students.

### 3.6 Definition of Terms

To establish a common frame of reference, the terms used in the study are operationally defined as follows:

**Cultural adjustment** is an adaptation or change in behavior of foreign students in response to new or modified environment.

**Foreign students** are classified as non-Filipino citizens who came from abroad and currently enrolled in Southwestern University.

**Personality traits** refer to the 16 Personality Factors of the foreign students enrolled from different colleges of Southwestern University.

## 4 PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Table 1 presents the profile of the respondents of the study. As to sex, majority are male. Out of 44, 29 (65.91%) are male and only 15 (34.09%) are female. The ages of the respondents range from 19 years old or younger to 26 years old or older. Although, 31.82% of the respondents aged 26 years or older, 24 (54.54%) are between the ages of 19 years old or younger to 22 years old. This result still confirms the other data (program enrolled and length of stay in the university) since those aged 26 years or older are enrolled in Doctor of Medicine. While the 54.54% are those enrolled in the BSBS and other 3-4 year programs offerings.

The respondents of this study are from eight (8) nationalities. The biggest number is represented by Nepalese, 14 (31.82%), followed with Thai and Japanese with eight (8) students (18.18%). Other

Table 1: Profile of the Respondents

<b>Sex</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Male	29	65.91
Female	15	34.09
<b>TOTAL</b>	<b>44</b>	<b>100.00</b>
<b>Age</b>		
26 years or older	14	31.82
23-25 y/o	6	13.64
20-22 y/o	12	27.27
19 years or younger	12	27.27
<b>TOTAL</b>	<b>44</b>	<b>100.00</b>
<b>Nationality</b>		
Nepalese	14	31.82
Nigerian	5	11.36
Somalian	2	4.55
Thai	8	18.18
Pakistani	3	6.82
Japanese	8	18.18
Indian	1	2.27
Kenyan	3	6.82
<b>TOTAL</b>	<b>44</b>	<b>100.00</b>
<b>Program enrolled</b>		
BS Biological Sciences	25	56.82
Doctor of Medicine	9	20.45
BS Biology	1	2.27
Pre-Dental	3	6.82
BS Social Work	6	13.64
<b>TOTAL</b>	<b>44</b>	<b>100.00</b>
<b>Language Spoken</b>		
Nepali	14	25.93
English	19	35.19
Thai	6	11.11
Somat	2	3.70
Japanese	8	14.82

Punjab	1	1.85
Arabic	1	1.85
Kitwahain	1	1.85
Newari	1	1.85
Urdu	1	1.85
<b>TOTAL</b>	<b>54</b>	<b>100.00</b>
<b>Length of stay in the university</b>		
5 years or more	16	36.36
3-4 years	3	6.82
1-2 years	19	43.18
Less than a year	6	13.64
<b>TOTAL</b>	<b>44</b>	<b>100.00</b>
<b>Where the student is staying</b>		
Dormitory	17	38.64
Apartment	18	40.91
Studio type	7	15.91
Others	2	4.54
<b>TOTAL</b>	<b>44</b>	<b>100.00</b>

nationalities represented in this study are Nigerian (11.36%), Kenyan and Pakistani (6.82%), Somalian (4.55%) and with only one (1) (2.27%) Indian. These foreign students are enrolled in different program offerings. 25 (56.82%) of them are taking Bachelor of Science in Biological Sciences (BSBS) while only one (1) (2.27%) is enrolled in Bachelor of Science in Biology. Other courses that were represented by the respondents of this study are Pre Dental (6.82%), Bachelor of Science in Social Work (13.64%) and Doctor of Medicine (20.45%). It is also good to note that out of the five (5) program offerings, four (4) of these care medical and only the Bachelor of Science in Social Work which is a non-medical program.

Out of the eight (8) different nationalities, languages spoken of the respondents totaled to ten (10). The commonly spoken languages are English and Nepali (35.19% and 25.93%, respectively). Some respondents claimed that they can speak more than one (1) language. Thus, the total frequency of responses reached to 54 instead of its total of 44 respondents.

While the second biggest number of foreign students are those who stay in the university for 5 years or more with 36.36%, it also confirms the data of respondents enrolled in the college of Medicine with a total of nine (9) (20.45%). Other

respondents stay less than a year (13.64%) and 3-4 years (6.82%). Those who stay in less than a year are probably the students who withdraw and somehow experienced cultural shock as reflected in the study of Kohl (2001). Those who stayed for 3-4 years are probably those who are able to finish other 4-year courses in the university. Moreover, these students could have experienced better cultural adjustment. As mentioned in the research of Trinovitch, these students felt comfortable and relaxed in their new environment.

The places where the respondents stay may vary, but almost (79.5%) all of them are either staying in an apartment (40.91%) or dormitory (38.64%). Others prefer to stay in a studio type (15.91%) and two (2) (4.54%) did not mention where they specifically stay. Most foreign students prefer to stay in an apartment or dormitory since their stay here is only temporary. Moreover, the location of the apartment and dormitory are closer to the university. It saves time for them in going to school and at the same time the cost of transportation.

Table 2: Personality Traits of the Respondents

Personality Trait	Weighted Mean (WM)	Description
Extraversion	4.27	High
Anxiety	3.67	High
Tough-mindedness	3.98	High
Independence	4.15	High
Self-control	3.70	High
<b>General Mean</b>	<b>3.95</b>	<b>High</b>

Table3: Cultural Adjustment

Cultural Adjustment	Weighted Mean (WM)	Description	Level of Adjustment
<b>Residence</b>	<b>2.92</b>	<b>Agree</b>	<b>Average</b>
<b>School</b>	<b>3.04</b>	<b>Agree</b>	<b>Average</b>
<b>Friends</b>	<b>2.85</b>	<b>Agree</b>	<b>Average</b>
<b>Classroom</b>	<b>2.63</b>	<b>Agree</b>	<b>Average</b>
<b>Food</b>	<b>2.75</b>	<b>Agree</b>	<b>Average</b>
<b>Sexual Relations</b>	<b>2.46</b>	<b>Agree</b>	<b>Average</b>
<b>Hobbies</b>	<b>2.68</b>	<b>Agree</b>	<b>Average</b>
<b>General Mean</b>	<b>2.76</b>	<b>Agree</b>	<b>Average</b>

Table 4: Difference Between the Cultural Adjustment and Personality Traits of the Foreign Students

Variables	Mean	Computed t	Decision	Interpretation
Personality traits	2.70	1.87	Accept Ho	<b>There is no significant difference</b>
Cultural adjustment	2.80		Accept Ho	

## 5 SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The profile of the respondents showed that out of 44, 25 (56.82%) are taking B.S. Biological Sciences and only one (1) (2.27%) is enrolled in BS Biology program. Out of the five (5) program offerings in this study, four (4) of these are medical programs. Only one (1) is a non-medical (i.e., BS Social Work) program offerings. With a total population of 52 2nd year college students, 44 (84.62%) were the respondents of this study with a total of eight (8) nationalities; Nepalese (31.82%) as the highest in number. Majority are male (65.91%) and only 15 (34.09%) are female. They also stay in the university for 5 or more years with 36.36%. Very few stay for the period of 3-4 years (6.82%). Most of them speak the English and Nepali (35.19% and 25.93% respectively) languages. Although, some of them claimed that they can speak with more than one (1) language.

The personality traits of the respondents of the study were extrovert, tough-minded, independent and have self-control. The respondents also showed high anxiety trait. Over-all, the respondents are culturally adjusted. Although, in the areas cultural adjustment in classroom, sexual relations and hobbies, the respondents expressed that they do not have rapport with their professors (classroom), they do not date and are less attracted with Filipinos (sexual relations) and do not participate in any voluntary works in an organization (hobby).

It is concluded that there is no significant relationship between the profile and cultural adjustment of the foreign students. Moreover, there is also no significant relationship between the profile and personality traits of the foreign students. Finally, there is no significant difference between the personality traits cultural adjustment of the foreign students.

Based on the findings of the study, the following recommendations were proposed (1) results of this study be disseminated to the foreign students for them to know the variables that need to be considered and taken closer monitoring or attention; (2) the Filipino students must also know the results of the study so that they will be aware of the feelings and perception of the foreign students during their stay in the university; (3) rapport to the professors was one of the results that the respondents showed as not well adjusted, the professors must be informed of these results so that they are able to bridge the gap and develop an effective teacher-learner relationship.



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## PERSONALITY TRAITS AND CULTURAL ADJUSTMENT OF THE FOREIGN STUDENTS OF SOUTHWESTERN UNIVERSITY

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### 1.INTRODUCTION

#### Rationale of the Study

Foreign students share experiences of culture adjustments and transitioning while pursuing their studies in another country. No matter how well we prepare them before their arrival they are still bound to cultural adjustment.

Culture obviously reflects one's personality traits and foreign students are confronted with several cultural adjustments. Whereas, people from other cultures tend to be "process being" (stress on who you are) and group oriented. To some, being friendly is a goal to be able to adjust culturally.

Personality traits of an individual reflect on his uniqueness as a person and that he has a consistent personality. He also believed that a person has various types of traits. It could be individual, common, cardinal or central traits. On the other hand, there is also what we call secondary traits and are often not exhibited.

In Southwestern University we have a number of foreign students enrolled in different academic degree programs. Right now, a total of 24 different nationalities represent the foreign students.

The study explored on the different personality traits of the foreign students and how they also adjusted to our culture while they are studying. Most foreign students in the university are being mistaken as overly confident, assertive, and vocal about their observations in the classroom, sexual relationship, and others. Thus, this study was conceptualized to be able to assess their personality traits and establish a relationship with their personal background. Moreover, the researchers would like to discover how they adjust as a student in the university. With the findings of the study, the researchers will formulate an intervention scheme.

#### Theoretical Background

This study is anchored on the theory of Raymond Cattel's 16PF, who claimed that the study of personality passed through two earlier phases before reaching its current scientific status. "From biblical times until the early nineteenth century," he wrote "it was a matter for intuitive insights expressed in the realm of literature," marked by such giants as Plutarch, Bacon and Goethe. Then came a century of clinically oriented

theorists (Freud, Adler and Jung), with some experimental work (Jung and McDougall). Ever since World War I, the study of personality has been in the third, “experimental and quantitative” phase. Cattell saw his work as building on the valuable insights of earlier theories but subjecting them to independent judgement on the basis of modern methods (Cloninger, 2008).

Cattell viewed personality as a complex and differentiated structure of traits with its motivation largely dependent upon a subset of these. Traits may be divided in terms of the modality through which they are expressed. If they are concerned with setting the individual into action toward some goal, they are dynamic traits. If they are concerned with the effectiveness with which the individual reaches the goal, they are the ability traits. Or they are may be concerned largely with constitutional aspects of response such as speed, energy, or emotional reactivity, in which case they are referred to as temperament traits.

Cattell’s theory was also the proponent of the Big Five Factors and their constituent traits can be summarized as openness, conscientiousness, extraversion, agreeableness, neuroticism.

The theory of Surenson (1999) as cited by Schaefer, teaches that personality is that which permits of what a person will do in a given situation; or what different people will do in all kinds of social and general environment situations. Furthermore, he expressed that the detailed task of defining personality must await a full specification of the concepts that the theorist plans to employ in his or her behavior (Scheafer, 2005).

According to Sayeth (1997) personality traits have something to do with the distinguishing character or qualities of the individual. Individuals vary with their personality traits. Some traits are inherited from their parents. There are also traits that they acquire from the environment. Traits are very important because it shapes and molds the behavior of the individual.

Cultural transmission occurs when students receive their formal schooling in another nation. The US is a popular destination for college students form abroad each year, half a million foreign students enroll at US institutions of higher learning.

Psychologist Hans Eysenck, found that personality could be best described in terms of three major dimensions: extraversion, neuroticism, and psychoticism. The extraversion dimension relates to the degree of sociability, whereas, the neurotic dimensions encompasses emotional stability. Finally, psychoticism, refers to the degree to which reality is distorted. By evaluating people along these three dimensions, Eysenck was able to predict behavior accurately in a variety of situations (Feldman, 2008).

### **Review of Literature and Related Studies**

Literature and related studies are presented to establish the relationship of the researchers’ study to conducted studies and published materials.

#### **Stages of Cultural Adjustment**

The majority of people studying, working, or living in a new and different culture undergoes cultural adjustment. Most students spend the first few days in the United States settling into apartments and “getting adjusted”; however, adjustment is not accomplished in a few days or even a few weeks. Adjustment is an on-going process demanded by one situation and then another. Gregory Trinovitch, a researcher and

associate director of the Culture Learning Institute in Hawaii has identified four stages: The Honeymoon Stage, The Hostility Stage, The Integration Stage and The Home Stage.

Tweed and Lehman (2002) proposed a Confucian-Socratic framework, to analyze the influence of different cultural contexts on academic learning. Socratic-oriented learning involves “overt and open as well as private questioning and values respectful behavior.” Confucian- oriented learning effort-focused conceptions of learning, pragmatic orientations to learning, and acceptance of behavioral reform as an academic goal. Confucian philosophy has a strong impact on Chinese people's viewpoints, ways of thinking and behavior. He believed that success was mainly due to hard work rather than ability.

Mischel (1984) found that inconsistency across situation is pervasive; he found this not only the traits of honesty and conscientiousness, but also with other traits, such as aggression and dependency. Furthermore, different measures of what should be the same trait were often weakly correlated, or not correlated at all. (Kosslyn and Rosenberg, 2005).

In the study of Harrison, et.al. (1999), entitled “The Relationship Between Cross-Cultural Adjustment and the Personality Variables of Self-efficacy and Self-monitoring,” concluded that a primary determinant of expatriates' effectiveness is how well they adjust their behavior to function appropriately within a host culture. Because research suggests that the adjustment process may be highly related to certain personality variables. This survey of 99 American expatriates in Europe indicated that subjects with high general self-efficacy expressed greater degrees of general interactions, and work adjustments than those with low general self-efficacy ([www.sciencedirect.com/science/journal](http://www.sciencedirect.com/science/journal))

Robert Kohl (2001) stressed in his book entitled “Survival Kit for Overseas Living” that culture is central to the experience of living overseas. For Americans planning to live and work abroad, international students in the States certainly share similar experiences of cultural adjustments and transitioning while pursuing their studies. No matter how well the international students’ offices prepare the incoming students before their arrival, they are bound to experience some kind of cultural shock and, as a result, find ways to adapt and survive. Even for international students who have studied the English Language since kindergarten, they may still have difficulties, at least for a while, in listening and understanding American English in a cultural context. ([www.cgu.edu/pages/945.asp](http://www.cgu.edu/pages/945.asp))

## **2.THE PROBLEM**

### **Statement of the Problem**

This study aimed to determine the personality traits and cultural adjustments of the foreign students of Southwestern University.

Specifically, this study sought to answer the following questions:

7. What is the profile of the foreign students in Southwestern University in terms of:
  - 7.1 Sex;
  - 7.2 Age;
  - 7.3 Nationality;
  - 7.4 Program enrolled;
  - 1.5. Language spoken
  - 1.6. Length of stay in the university;
  - 1.7. Place where they are staying?

8. What are the personality traits of the foreign students of Southwestern University?
9. What cultural adjustment they are undertaking in these areas:
  - 3.1 Residence;
  - 3.2 School;
  - 3.3 Friends;
  - 3.4 Classroom;
  - 3.5. Food;
  - 3.6. Sexual Relations;
  - 3.7. Hobbies?
10. Is there a significant relationship between the profile and the cultural adjustment of the foreign students?
11. Is there a significant relationship between the profile and personality traits of the foreign students?
12. Is there a significant difference between the personality traits and cultural adjustments of the foreign students?

### **Hypotheses**

Ho1: There is no significant relationship between the profile and the cultural adjustment of the foreign students.

Ho2: There is no significant relationship between the profile and personality traits of the foreign students.

Ho3: There is no significant difference between the personality traits and cultural adjustments of the foreign students.

### **Significance of the Study**

Although relationship between these students has not been a problem in the university, isolated cases of conflict between foreign students and Filipino students can be minimized through the information provided in this study.

Foreign students will be guided to determine the common factors affecting their academic performance and such will lead them to recognize alternatives if there is a need.

Filipino students could assist foreign contemporaries in the provision of a wholesome environment despite the latter's socio- psychological and economic situations.

Teachers of foreign students will be enlightened on how to help the students cope and adjust with the Filipino educational system with consideration to their socio- psychological and economic limitations.

The school administrators will also benefit from this study because they may suggest a redirection and improvement of school policies and accommodation of foreign students who find it difficult to adjust immediately to the new setting in the school.

## **3. RESEARCH METHODOLOGY**

This study was anchored on studying the personality traits and cultural adjustment of foreign students enrolled in Southwestern University. The study used the descriptive-correlational method using the quantitative approach.

### **Research Design**

The study used the descriptive-correlational method using the quantitative approach.

The researchers used the purposive-sampling method in data gathering. Purposive sampling is one where the researcher starts with a large group of potential subjects. To be included in the sample, however, members of this large group must meet certain criteria established by the researcher because of the nature of the questions to be answered by the investigation.

### **Research Respondents**

Out of the 284 foreign students in the school year 2010-2011, only the second year foreign students have taken the personality test, which was administered by the guidance counsellors of the university. There were 52 second year students and only 44 became the respondents of this study.

### **Research Environment**

The research was conducted in Southwestern University Main Campus in Urgello Street, Cebu City. The university was founded in 1946. Presently it offers degree programs in the undergraduate, graduate and post-graduate levels.

### **Research Instrument**

The Sixteen Personality Factor Questionnaire (16PF) represents Dr. Raymond Cattell's endeavor to identify the primary components of personality by factor analyzing all English- Language adjectives describing human behavior. The 16PF Fifth Edition, although updated and revised, continues to measure the same 16 primary personality factor scales identified by Cattell over 45 years ago. Factor scales remain denoted by letters as a sign by Cattell, such as "Factor A", but they also are designated by more descriptive labels, such as "Warmth". The broad personality domains under which primary factors cluster are now called "Global Factors" instead of "Second- Order Factors," however, these domains still exhibit an underlying factor structure similar to that found previously, reaffirming Cattell's original findings.

The 16PF Fifth Edition contains 185 items that comprise the 16 primary personality factor scales as well as an Impression Management (IM) index, which assesses social desirability. Each scale contains 10-15 items. The tests, which can be administered individually or in a group setting, takes 35 to 50 minutes to complete by computer.

In addition to the primary scales, the 16PF contains a set of five scales that combine related primary scales into global factors of personality. The global factors historically have been called "second- order factors" in 16PF literature and result from a factor analysis of the test's primary scales. The global factors are the following: Extraversion, Anxiety, Tough-mindedness, Independence and Self-Control.

Another instrument used was the researcher-made questionnaire.

The first part consisted the profile of the respondents that included the sex, age, nationality, program enrolled, language spoken, length of stay in the university and where the students are staying.

The second part consisted of seven (7) questions with three (3) choices. Using the 4-point Likert scale, the respondents simply check their answer from strongly agree, agree, disagree and strongly disagree.

## Research Procedure

### Gathering of Data

The researchers approached the college guidance counselors and asked if the 2<sup>nd</sup> year foreign students have already taken the personality test. Since the data was already available, the researchers were given a copy of the test result. The questionnaire constructed by the researchers was also administered to the identified foreign students who have taken the personality test.

### Treatment of Data

Simple percentage was used to determine the profile of the respondents based on their sex, age, nationality, program enrolled, language spoken, length of stay in the university and where the students are staying. To determine the level of cultural adjustment that the foreign students are currently experiencing, the weighted mean was used. The following is the parameter for the level of cultural adjustment:

Range	Description	Level
3.26 - 4.0	Strongly Agree (SA)	High
2.51 - 3.25	Agree (A)	Average
1.76 - 2.50	Disagree (D)	Low
1.0 - 1.75	Strongly Disagree (SD)	Fair

The following is the parameter for the personality traits, Global Factors:

Range	Description
4.31 - 5.0	Very High
3.51 - 4.30	High
2.71 - 3.50	Average
1.81 - 2.70	Low
1.0 - 1.80	Very Low

To determine the relationship between the profile and the cultural adjustment (of the foreign students) as well as the significant relationship between the profile and personality traits, Chi-square was used. T-testing was also used to determine the significant difference between the personality traits and cultural adjustment of the foreign students.

### Definition of Terms

To establish a common frame of reference, the terms used in the study are operationally defined as follows:

**Cultural adjustment** is an adaptation or change in behavior of foreign students in response to new or modified environment.

**Foreign students** are classified as non-Filipino citizens who came from abroad and currently enrolled in Southwestern University.

**Personality traits** refer to the 16 Personality Factors of the foreign students enrolled from different colleges of Southwestern University.

## 4. PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Table 1 presents the profile of the respondents of the study. As to sex, majority are male. Out of 44, 29 (65.91%) are male and only 15 (34.09%) are female. The ages of the respondents range from 19 years old or younger to 26 years old or older.

Although, 31.82% of the respondents aged 26 years or older, 24 (54.54%) are between the ages of 19 years old or younger to 22 years old. This result still confirms the other data (program enrolled and length of stay in the university) since those aged 26 years or older are enrolled in Doctor of Medicine. While the 54.54% are those enrolled in the BSBS and other 3-4 year programs offerings.

The respondents of this study are from eight (8) nationalities. The biggest number is represented by Nepalese, 14 (31.82%), followed with Thai and Japanese with eight (8) students (18.18%).

**Table 1: Profile of the Respondents**

<b>Sex</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Male	29	65.91
Female	15	34.09
<b>TOTAL</b>	<b>44</b>	<b>100.00</b>
<b>Age</b>		
26 years or older	14	31.82
23-25 y/o	6	13.64
20-22 y/o	12	27.27
19 years or younger	12	27.27
<b>TOTAL</b>	<b>44</b>	<b>100.00</b>
<b>Nationality</b>		
Nepalese	14	31.82
Nigerian	5	11.36
Somalian	2	4.55
Thai	8	18.18
Pakistani	3	6.82
Japanese	8	18.18
Indian	1	2.27
Kenyan	3	6.82
<b>TOTAL</b>	<b>44</b>	<b>100.00</b>
<b>Program enrolled</b>		
BS Biological Sciences	25	56.82
Doctor of Medicine	9	20.45
BS Biology	1	2.27
Pre-Dental	3	6.82
BS Social Work	6	13.64
<b>TOTAL</b>	<b>44</b>	<b>100.00</b>



<b>Language Spoken</b>		
Nepali	14	25.93
English	19	35.19
Thai	6	11.11
Somat	2	3.70
Japanese	8	14.82
Punjab	1	1.85
Arabic	1	1.85
Kitwahain	1	1.85
Newari	1	1.85
Urdu	1	1.85
<b>TOTAL</b>	<b>54</b>	<b>100.00</b>
<b>Length of stay in the university</b>		
5 years or more	16	36.36
3-4 years	3	6.82
1-2 years	19	43.18
Less than a year	6	13.64
<b>TOTAL</b>	<b>44</b>	<b>100.00</b>
<b>Where the student is staying</b>		
Dormitory	17	38.64
Apartment	18	40.91
Studio type	7	15.91
Others	2	4.54
<b>TOTAL</b>	<b>44</b>	<b>100.00</b>

Other nationalities represented in this study are Nigerian (11.36%), Kenyan and Pakistani (6.82%), Somalian (4.55%) and with only one (1) (2.27%) Indian. These foreign students are enrolled in different program offerings. 25 (56.82%) of them are taking Bachelor of Science in Biological Sciences (BSBS) while only one (1) (2.27%) is enrolled in Bachelor of Science in Biology. Other courses that were represented by the respondents of this study are Pre Dental (6.82%), Bachelor of Science in Social Work (13.64%) and Doctor of Medicine (20.45%). It is also good to note that out of the five (5) program offerings, four (4) of these care medical and only the Bachelor of Science in Social Work which is a non-medical program.

Out of the eight (8) different nationalities, languages spoken of the respondents totaled to ten (10). The commonly spoken languages are English and Nepali (35.19% and 25.93%, respectively). Some respondents claimed that they can speak more than one (1) language. Thus, the total frequency of responses reached to 54 instead of its total of 44 respondents.

While the second biggest number of foreign students are those who stay in the university for 5 years or more with 36.36%, it also confirms the data of respondents enrolled in the college of Medicine with a total of nine (9) (20.45%). Other respondents stay less than a year (13.64%) and 3-4 years (6.82%). Those who stay in less than a year are probably the students who withdraw and somehow experienced cultural shock as reflected in the study of Kohl (2001). Those who stayed for 3-4 years are probably those who are able to finish other 4-year courses in the university. Moreover, these students could have experienced better cultural adjustment. As mentioned in the research of Trinovitch, these students felt comfortable and relaxed in their new environment.

The places where the respondents stay may vary, but almost (79.5%) all of them are either staying in an apartment (40.91%) or dormitory (38.64%). Others prefer to stay in a studio type (15.91%) and two (2) (4.54%) did not mention where they specifically stay. Most foreign students prefer to stay in an apartment or dormitory since their stay here is only temporary. Moreover, the location of the apartment and dormitory are closer to the university. It saves time for them in going to school and at the same time the cost of transportation.

Table 2: Personality Traits of the Respondents

Personality Trait	Weighted Mean (WM)	Description
Extraversion	4.27	High
Anxiety	3.67	High
Tough-mindedness	3.98	High
Independence	4.15	High
Self-control	3.70	High
<b>General Mean</b>	<b>3.95</b>	<b>High</b>

Table3: Cultural Adjustment

Cultural Adjustment	Weighted Mean (WM)	Description	Level of Adjustment
<b>Residence</b>	<b>2.92</b>	<b>Agree</b>	<b>Average</b>
<b>School</b>	<b>3.04</b>	<b>Agree</b>	<b>Average</b>
<b>Friends</b>	<b>2.85</b>	<b>Agree</b>	<b>Average</b>
<b>Classroom</b>	<b>2.63</b>	<b>Agree</b>	<b>Average</b>
<b>Food</b>	<b>2.75</b>	<b>Agree</b>	<b>Average</b>
<b>Sexual Relations</b>	<b>2.46</b>	<b>Agree</b>	<b>Average</b>
<b>Hobbies</b>	<b>2.68</b>	<b>Agree</b>	<b>Average</b>
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Table 4: Difference Between the Cultural Adjustment and Personality Traits of the Foreign Students

Variables	Mean	Computed t	Decision	Interpretation
Personality traits	2.70	1.87	Accept Ho	<b>There is no significant difference</b>
Cultural adjustment	2.80		Accept Ho	

## 5. SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The profile of the respondents showed that out of 44, 25 (56.82%) are taking B.S. Biological Sciences and only one (1) (2.27%) is enrolled in BS Biology program. Out of the five (5) program offerings in this study, four (4) of these are medical programs. Only one (1) is a non-medical (i.e., BS Social Work) program offerings. With a total population of 52 2<sup>nd</sup> year college students, 44 (84.62%) were the respondents of this study with a total of eight (8) nationalities; Nepalese (31.82%) as the highest in number. Majority are male (65.91%) and only 15 (34.09%) are female. They also stay in the university for 5 or more years with 36.36%. Very few stay for the period of 3-4 years (6.82%). Most of them speak the English and Nepali (35.19% and 25.93% respectively) languages. Although, some of them claimed that they can speak with more than one (1) language.

The personality traits of the respondents of the study were extrovert, tough-minded, independent and have self-control. The respondents also showed high anxiety trait. Over-all, the respondents are culturally adjusted. Although, in the areas cultural adjustment in classroom, sexual relations and hobbies, the respondents expressed that they do not have rapport with their professors (classroom), they do not date and are less attracted with Filipinos (sexual relations) and do not participate in any voluntary works in an organization (hobby).

It is concluded that there is no significant relationship between the profile and cultural adjustment of the foreign students. Moreover, there is also no significant relationship between the profile and personality traits of the foreign students. Finally, there is no significant difference between the personality traits cultural adjustment of the foreign students.

Based on the findings of the study, the following recommendations were proposed (1) results of this study be disseminated to the foreign students for them to know the variables that need to be considered and taken closer monitoring or attention; (2) the Filipino students must also know the results of the study so that they will be aware of the feelings and perception of the foreign students during their stay in the university; (3) rapport to the professors was one of the results that the respondents showed as not well adjusted, the professors must be informed of these results so that they are able to bridge the gap and develop an effective teacher-learner relationship.

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# **Program-Poster Sessions**

## **Education I**

**10:00-12:00, December 15, 2012(Room 3)**

**134: Exploration on the Work Stress of Coding Specialists from the Promotion of New Medical Policies: Using the Introduction of the ICD-10-CM/PCS for the Classification of Diseases as an Example**

*Yu Hua Yan*

*Tainan Municipal Hospital*

**160: Exploration on Studying Effect of Nursing Aides Training Program- the Examples of Home Health Care Model in Taiwan**

*Yu Hsia Wang*

*Tainan Municipal Hospital*

**200: Models and Measurements of Coping Strategies in Parents of Children with Developmental Disabilities**

*Tzu Hua Ho*

*University of California, Riverside*

## **Exploration on the Work Stress of Coding Specialists from the Promotion of New Medical Policies: Using the Introduction of the ICD-10-CM/PCS for the Classification of Diseases as an Example**

**Yu-Hua Yan**

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### **ABSTRACT**

The present study mail or hand out questionnaire survey to be completed by the coding specialists throughout the nation; the surveys were collected for statistics, analyses and discussion. 802 surveys were distributed within the two months, and a total of 333 surveys were valid after invalid surveys were removed, the reclaim rate was 41.5%.

Coding specialists are facing challenges in professional knowledge and stress from role transition. Recommendations are made to the government to provide different levels of training and to allocate additional training facilities aimed at the needs of those at different competence, and to value the professional value of the coding specialists to increase their enthusiasm and enhance their professional quality.

Keywords: ICD-10-CM/PCS, Knowledge, Work Stress

### **1. INTRODUCTION**

The use of the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) for National Health Insurance Claims in Taiwan has been implemented for many years, and has assumed an important place. In terms of structure, the ICD-9-CM mostly reflects the medical status during the 1970's, when updates in medical technique could not show the complications in the management where many new etiology and relevant health information cannot be shown (Endicott, 2012). In terms of policies, it is unable to bridge with the international community; medical studies and assessment were hindered, making it difficult to assess new processes and the results of new healthcare. In terms of medical costs, the medical services are unable to be paid appropriately due to limitations in coding (Lu, 2008; Walker, 2008). To connect with the international community, training, development and the establishment of the International Statistical Classification of Disease and Related Health Problems, Tenth Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS), was gradually introduced in 2011 in Taiwan, and the ICD-10-CM is scheduled to be fully implemented by 2014 (Bureau of National Health Insurance, 2011; Hsu et al. 2010).

The ICD-9-CM was being widely used officially since January 1, 1979. To reflect progress in relevant knowledge and changes in concept, international classification of disease is revised approximately every 10 years. However, the time between the 9<sup>th</sup> Edition (1975) to the 10<sup>th</sup> (1992) was about 17 years (Feng et al. 2011; Chen, 2008). Taiwan started state-run health insurance in 1995. To establish medical cost auditing and payment standards, the ICD-9-CM was gradually introduced to claim for medical

insurance claims using the codes for disease classification. Therefore, the ICD-9-CM plays a very important role in the National Health Insurance claims.

Over time, however, the ICD-9-CM code sets have become archaic in identifying clinical care patterns, and they lack the granularity needed to practice evidence-based medicine (Kloss, 2005; Bowman, 2008; Schwend, 2007). With advances in medical technology and the expansion of medical procedures, the level of specificity desired in diagnostic and procedural codes is growing (Kloss, 2005; Department of Health and Human Services, 2009). The change to ICD-10-CM/PCS presents an opportunity for US providers, healthcare organizations, and payers not only to expand the ways in which medical procedures are documented for billing purposes but also to enhance the specificity at which patient-level data may be utilized to improve patient health outcomes, reduce medical errors, enhance quality data reporting, and increase the accuracy of claims payments (Kloss, 2005; Schwend, 2007; Meyer, 2011; Piselli et al. 2010).

Clinical education culture in Taiwan is different from other countries. Attending physicians in Taiwan do not write medical charts themselves, as it is done by the interns or resident physicians. The attending physicians only conduct final checking on the quality of the writing in the medical chart (Hsu, 2005). As a result, specialists play a very important role and their skills have to be proficient in the management of medical records (Huang et al. 2010). The accuracy and the integrity of the classification of disease will influence the correctness of medical research, health insurance claims, and data for health statistics, which further affect drafting of health policies and plans. Therefore, over time, the professional resources and trainings of the coding specialists have to be relieved upon in order to achieve the accuracy and the integrity of disease classification (Walker, 2008; Huang and Lee, 2002; Guu et al, 2010; Avillach et al. 2008).

Coding specialists in Taiwan began cooperating with the promotion of the health policy in 2011, and relearned the coding skills for the ICD-10-CM/PCS while using the ICD-9-CM disease classification at the same time for current health insurance system were used during the learning process. Throughout the ICD-10-CM/PCS transformation and learning process, the competency characteristics such as knowledge, competency, skills, learning aspiration of the coding specialists (McClelland, 1973; Boyatzis, 1982; Spencer and Spencer, 1993; Losey, 1999; Bonder, 2003; Lucia and Lepsinger, 1999; O' Shea, 2002; Whelan, 2006; Hoge et al. 2005; Champion et al. 2011) of the coding specialists on their work stress such as individual roles, interpersonal relationships, professional pressure, and workload (Haynes et al.1982; Arnetz, 1997; McGrath, 1976; Ou et al. 2003; Panari et al. 2010; Runyon et al. 2010), may affect the effectiveness of the introduction of the ICD-10-CM/PCS. Therefore, exploring the promotion for new medical policy to the work stress of the coding specialists is important and necessary, and is an important research topic for current medical management. The contribution from the present study is to establish the model for competency characteristic and work stress and to find the proof, in order to fill the current gap in the theory from lack of relevant literature.

## **2. METHODS**

The purpose of the present study is to explore the influence from the promotion on the new medical policy on the work stress of the coding specialists in Taiwan using questionnaires that were either mailed or handed out to the coding specialists nationwide; the survey were collected after it was completed for statistics, analysis

and discussion. The study was conducted between August 1, 2011, and September 30, 2011. 802 surveys were distributed within the two months, and a total of 333 surveys were valid after invalid surveys were removed, the reclaim rate was 41.5%. After data collection was completed, SPSS for Windows 18.0 statistics software was used to perform statistical analysis. Considering the levels of measurement of the study variables and the applicability of the statistical analytic tools, we began with descriptive statistics to understand the data distribution. Further, multiple regression analysis was used to explore the prediction performance of the independent variable upon the dependent variable and relevant data, using  $p < 0.1$  as the standard to determine statistical significance.

### 3. RESULTS

In terms of coding specialists' personal attribute, the results of the regression analysis as shown in Table 1 showed that negative regression coefficient for years of employment <1 and 4-10 with regards to role stress, with a negative correlation ( $\beta = -.099, -.101$ ), while knowledge ( $\beta = -.230$ ), competency ( $\beta = -.278$ ), and learning aspiration ( $\beta = -.203$ ), showed a significant negative correlation; the change in explanatory power was statistically significant (F value = 10.322 ;  $p < 0.01$ ). With regards to interpersonal relationships, standardized regression coefficients for those with associate degree were negative, showing a significant negative correlation ( $\beta = -0.107$ ); competency ( $\beta = -.223$ ) and learning aspiration ( $\beta = -.255$ ), and the change in explanatory power were statistically significant (F value = 6.379 ;  $p < 0.01$ ).

In terms of professional stress, the standardized regression coefficients for 1-3 years of employment was positive, showing significant positive correlation ( $\beta = .125$ ); knowledge ( $\beta = -.189$ ), competency ( $\beta = .189$ ), learning aspiration ( $\beta = -.121$ ), and the change in explanatory power were statistically significant (F value = 2.271 ;  $p < 0.05$ ). As for workload, a significant positive correlation was found between high school diploma ( $\beta = .095$ ); significant negative correlation was found in 4-10 years of employment, knowledge ( $\beta = -.123$ ), competency ( $\beta = -.212$ ), and learning aspiration ( $\beta = -.140$ ); the change in explanatory power was statistically significant (F value = 5.382 ;  $p < 0.01$ ).

Therefore, no significant main effect was found between gender and age ( $\beta$  value did not achieve statistical significance). Knowledge, skills and learning aspiration were lower for those with years of employment less than 1 year and 4-10 years when compared to those with >10 years, which lead to greater positive influence in role stress. The competency and learning aspiration for those with associate degree were lower, and a less likelihood of conflict in interpersonal relationships. The knowledge, skills and competency were lower for those with 1-3 years of employment when compared to those with >10 years of employment, which has more positive influence on professional stress. Since the knowledge gathered, competency and learning aspiration were lower; workload has more influence for those with a high school diploma.



Table 1 Regression analysis on Personal Attributes, Competency Characteristics and Work Stress

Variable	B1		B2		B3		B4	
	B	P	B	P	B	P	B	P
	value	value	value	value	value	value	value	value
Gender(Males vs. Females)	.000		-.011		.004		.018	
Age (Reference group:31-40)								
<30	-.015		-.067		-.050		-.034	
41-50	-.084		-.009		.060		.034	
>51	-.029		.037		.015		.022	
Education(Reference group: Bachelor's degree)								
High school diploma	-.012		-.057		-.054		.095	*
Associate's degree	-.017		-.107	**	-.068		.005	
Graduate degree	-.051		-.007		-.078		-.003	
Years of employment(Reference group:>10)								
<1	-.099	*	-.046		-.055		-.036	
1-3	-.024		.036		.125	*	.045	
4-10	-.101	*	-.016		.025		-.108	*
Competence characteristic								
Knowledge	-.230	***	-.054		-.189	**	-.123	**
Skills	-.017		-.044		.118	*	-.074	
Competency	-.278	***	-.223	***	-.121	*	-.212	***
Learning	-.203	***	-.255	***	.100		-.140	**
Test of Model Explanatory Power								
R <sup>2</sup>	.312		.219		.091		.192	
Adj. R <sup>2</sup>	.282		.185		0.51		.156	
F Test	10.322***		6.379***		2.271**		5.382***	

Note: \* $p < .05$ ; \*\* $p < 0.01$ ; \*\*\* $p < .001$

#### 4. DISCUSSION

Coding specialists are generally lacking in hospitals in Taiwan. Relevant systems in Taiwan require testing in anatomy, physiology, epidemiology, pathology, health statistics, general theory in health information management, rules of disease classification, medical terms, and disease classification coding system, to obtain certificate of approval in disease classification. Only 800 or so persons have obtained the certificate so far. The training of a coding specialist cannot be achieved overnight. Therefore, the promotion of the ICD-10-CM/PCS will create a certain level of impact on work stress to these coding specialists. Since hospitals are non-profit organizations and a labor-intensive industry, a large number of medical, technical and administrative staffs are required for normal operation. Therefore, competency characteristics of the staffs have become a very important link in the success of promoting health policy

(Fang et al. 2012). The link between knowledge, skills, competency, learning aspiration and work stress on job, are the key behavioral elements to predict if the promotion of the new medical policy is successful or not.

No influence in terms of personal attribute and competency characteristics was observed in work stress, gender and age; this is different from the study by Misra et al. (2000) and Chen et al. (2012). In the aspect of “role stress” and “professional knowledge” on the difference between work stress and competency characteristics of the coding specialists, the present study found that coding specialists with lower years of employment would have fewer competency characteristic, and its role stress are higher. Coding specialists are key persons in the promotion of new health policy that requires a wide range of professional knowledge and skills (Trossman, 2011). Coding specialists play multiple roles; role stress such as role conflict and inadequacy are inevitable. Therefore, coding specialists with fewer years of experience will feel the challenges of professional knowledge and role transformation more directly.

In addition, the present study also found that work stress from “interpersonal relationships” can cause influence on the coding specialists. However, the study by Chen et al. (2012) pointed out that scoring for “interpersonal relationship” as the source of stress in stress perception of hospital health care executives received the lowest score. An exploration on the cause found that the subjects in the present study were coding specialists, while those in Chen were departmental executives in the hospitals. The practical experiences, work contents, and promotion requirements between the two were different, may be the cause for the difference between the two results; which may influence the perception of the work stress from interpersonal relationship in coding specialist. The present study also found that coding specialists of more age and years of employment have more experiences and better coping skills with others, and a less perception of work stress.

In the four aspects on the source of work stress, the majority of the work stress for the coding specialists originates from “workload.” Most coding specialists are unable to complete tasks within a specific timeframe due to an increase in the amount of work, causing a high workload. Using healthcare managers as subjects, the study by Shirey et al. (2010) and McCallin et al. (2010), found that healthcare managers have to work 12-14 hours each day; there is not enough time to complete the tasks that should be done for the job in a day, which is consistent with this study. On the other hand, the results from the exploration of work stress and coping methods in directors of the elementary schools by Chuan and Lu (2005), and the study by Chen et al.(2012), have shown that the major source of work stress are from workload, which is identical to the result of this study. Although the study subjects are different, the result showed that the major source of work stress for coding specialists is workload.

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## **Exploration on Studying Effect of Nursing Aides Training Program- the Examples of Home Health Care Model in Taiwan**

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### **ABSTRACT**

The elderly in Taiwan grow up fast and the demand of looking after for a long time increases. The demand and question of nursing aides in a long time will bludgeon medical treatment of nursing aides in Taiwan. The purpose of the present study is to explore the influence of knowledge and related skills among the nursing aides with training program in some regional hospital in Taiwan. This research takes a random sampling under the nursing aides with training program in home health care model. Engaged in nursing aides after training program rate improves from 5 people (7.57%) to 40 people (60.60%). 58,887 working hours of nursing aides with training program are carried out. The mean range practical training is 4.64 points. propose teaching and promoting engaging nursing aides, setting up the educational system of nursing aides for sustainable management in for long-term looking after.

Keywords: Home health care model, Knowledge, skills, satisfaction

### **1. INTRODUCTION**

Taiwan for more than 65 years of age 10.43% of the elderly population in the total population estimate in 2056 will rapidly rise to 37.5% (1). The elderly in Taiwan grow up fast and the demand of looking after for a long time increases. The demand and question of nursing aides in a long time will bludgeon medical treatment of nursing aides in Taiwan. The purpose of the present study is to explore the influence of knowledge and related skills among the nursing aides with training program in some regional hospital in Taiwan.

### **2. METHODS**

The study enrolled since June 2012 to December 2012, This research takes a random sampling under the nursing aides with training program in home health care model. This research issues a questionnaire 69, to recover a valid questionnaire 66, and the [response](#) rate is 95.7%. This research used three research instruments. A demographic data survey questionnaire collected data on subject sex, age and education degree, etc; the chart of cognitive knowledge; the effective chart of cognitive skills.

### **3. RESULTS**

Most nursing aides are females, 51 people account for 74%. There are 18 males (26%), age level with 51-60 years old and 22 persons (31.88%) at most, the senior high school degree is with 29 persons (42%) at most, the marital status with married is 47 persons (68.11%) at most. Engaged in nursing aides after training program rate improves from 5 people (7.57%) to 40 people (60.60%). 58,887 working hours of

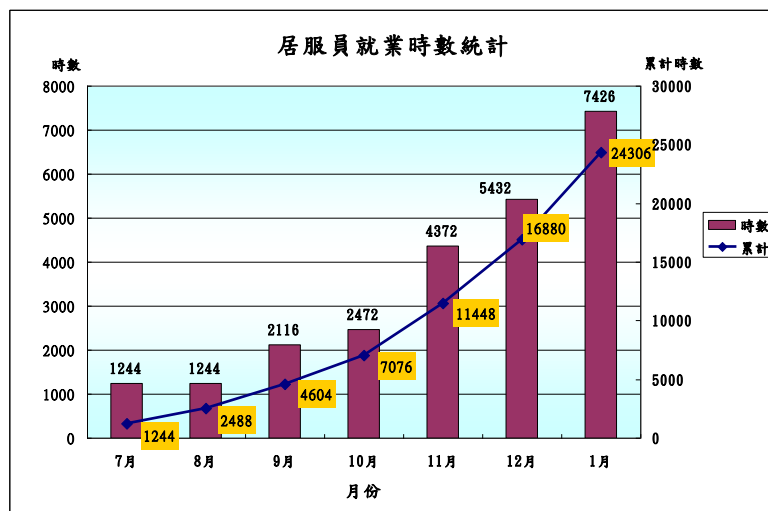
nursing aides with training program are carried out. The mean range practical training is 4.64 points. The mean range of course practical training to himself are 4.66 points. The mean range scores of practical training are 4.15 and the lowest scores are 3.60 in proficient technology. This course is taking place four discussion meetings of training program and three discussion meetings of home care workers in community health care continuously. Students agree unanimously that training program is very helpful to himself and they could represent love and enthusiasm more concrete.

#### 4. CONCLUSIONS

Lin et al (2003) found that the study internship at the number of lower satisfaction, it is recommended that in future training courses to increase internship hours; Wang et al (2001) also proposed to increase the number of internship at the actual care of trained personnel to strengthen Capacity. The activities of looking after from nursing aides are deed and wide at present. It is worthy thinking deeply about whether the training program content can meet the demand of looking after. One regional hospital in the south of Taiwan plans to hold nursing aides training course in home health care model. Besides strengthening professional knowledge of nursing aides and the care and zeal to people, increasing the security and treatment quality of receiving from the servers; In addition, about the lowest scores in proficient technology of 3.60 should strengthen technological exercises and live practice in training course in the future to improve and practice the quality of long-term looking after. Finally, propose teaching and promoting engaging nursing aides, setting up the educational system of nursing aides for sustainable management in for long-term looking after.

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## **Models and Measurements of Coping Strategies in Parents of Children with Developmental Disabilities**

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### **ABSTRACT**

Parents with effective coping strategies may have lower reported stress and better family adaptation when raising children with disabilities. This poster summarized and reported the theories and measurements about the coping strategies for parents of children with autism and developmental disabilities in studies. Most recent literatures of family coping with developmental disabilities are based on the theoretical models of the General Stress and Coping Theory or the Double ABC-X Model. Longitudinal study results of family's coping with autism showed that although a variety of parental coping strategies were used, the coping activities in each family may change over time and are associated with culture, belief, or demographic background. Several measures were developed for investigating the family coping, such as Family Crisis Oriented Personal Evaluation Scales (F-COPES), Ways of Coping Scale (WCS), and the Brief-COPE. These measurements were used for understanding the types of parental coping strategies and their association with parent-reported stress or mental health. Consistent findings showed that the parents with adequacy of social support and active coping patterns may have the more successful family adaptation. The active coping patterns may include reducing reliance on avoidance coping and increasing the use of positive coping strategies, such as using humor and acceptance to redefine the meaning of life events. In family-centered early intervention and special education, professionals should not only focus on the performances of children but also help parents and families to develop effective coping strategies and supports based on their culture background for improving successful family adaptation and quality of life.

Keywords: parent, coping, developmental disabilities, family, adaptation

### **1. INTRODUCTION**

Having a child with autism is usually a big challenge and a stressful situation for parents and families (Gray, 1994; Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001). Parents of children with autism always make more efforts to re-arrange their family life for coping with autism and report high levels of stress and mental health problems. A variety of factors were explored for discussing their relations to parental stress and adjustment of raising a child with autism. Studies found that child emotional and behavioral problems were related to the parents' mental health and stress. Child behavioral and emotional problems usually placed significant impact on maternal stress, parent mental health, and family functioning (Eisenhower, Baker, & Blacher, 2005; Herring, Gray, Taffe, Tongo, Sweeney, & Einfeld, 2006). Stress in parents has been associated with social support resources and coping. Studies indicated that coping strategies, social support sources, and beliefs about the efficacy of the intervention were associated with the level of parental stress. The adaptive and positive coping strategies were also regarded as important factors of successful family

adaptation and adjustment for raising a child with autism (Hastings & Johnson, 2001; Honey, Hastings, & McConachie, 2005). Thus, this paper aims to review the literatures about parent coping and discuss the effective coping strategies for parents of children with autism, regarding their psychological well-being and adjustment.

## **2. COPING STRATEGIES USED BY PARENTS**

Starting in 1988, Gray (1994) conducted a longitudinal and qualitative study in Australia for eight to ten years to examine how families of children with autism cope over time. A variety of coping strategies were used and reported by parents, including the use of social agencies, family support, social withdrawal, religion, normalization, individualism, and activism. Many parents relied not only on the special education programs and different treatment sources, but also on the respite services provided by agencies for taking a break. Professionals and treatment centers may also provide consultation and acceptance for families to relieve their distress. Some parents felt that the support from family members or their spouses are helpful, because their emotional feelings or expectations can be understood and shared. Findings in other studies also suggested that many mothers of children with autism spent more leisure time with their extended family (Tunali, & Power, 2002). Religion is another valuable source for parents. Some parents become closer to God or their personal religious beliefs. Also, they can get more support from the services of religious organizations or the church. However, religion may lead to different outcomes of adjustment. In a study of religious coping, it indicated that the positive religious coping was associated with the better psychological adjustment. On the other hand, if parents use some negative religious coping such as having the feelings of being punished or if the frequency of church attendance is limited due to the child's disability, parents may have the higher level of stress and the poorer outcome of adjustment (Tarakeshwar & Pargament, 2001). Additionally, many parents engaged in activities with individually based strategies and tried to develop a sense of mastery or self-worth. For example, parents sometimes become more politically active for seeking better intervention or protecting rights for their children. Some mothers may return to the workforce to get a self-identity other than that of the mother of an autistic child (Gray, 1994). A study in Taiwan also suggested that mothers who have a job may have a broader social support network and report a better life satisfaction than mothers who spend all of their time for caring a child with autism (Shu & Lung, 2005).

Further, Gray (2006) indicated that coping strategies change over time and with a general shift away from problem-focused strategies towards emotional-focused coping. While parents were younger, they used more problem-focus coping strategies and relied on the use of treatment services. However, when middle-aged parents found some their earlier expectations of the progress on their children were not fulfilled, a shift to more emotional-focused coping emerged. Parents showed more reliance on religious coping. They also expressed more acceptance and appreciation to their child's good qualities and achievements (Gray, 2006).

## **3. THEORETICAL MODELS OF STRESS**

Most studies of coping and stress were referred to or based on the theoretical models. Two major theoretical models are the General Stress and Coping Theory (Lazarus, & Folkman, 1984; Lazarus, 1993) and the Double ABC-Model or Family Adjustment and Adaptation Response (FAAR) Model (McCubbin, & Patterson, 1983).



The General Stress and Coping Theory (Lazarus, & Folkman, 1984) suggests that coping resources (individual and/or coping strategies) and social support (from formal sources, such as child care professionals, and informal sources, such as family and friends) would be the factors to moderate the effects of autism on parental stress.

The Double ABC-X Model or Family Adjustment and Adaptation Responses (FAAR) Model (McCubbin, & Patterson, 1983) illustrated that the interaction between the pile-up of other family stresses that make adaptation more difficult (aA), the social and psychological resources (bB), coping strategies (BC) and the meaning that family assigns to the event (cC) may contribute a variety of positive or negative adaptation outcomes.

#### **4. MEASUREMENTS OF COPING**

Based on the two major theoretical models, some measurements were developed. Different dimensions and categories of coping used by parents were identified. Researchers also adopt these measurement tools in studies for addressing issues of stress, coping, and support (Hastings & Johnson, 2001; Hastings, Kovshoff, Brown, Ward, Espinosa, & Remington, 2005; Higgins, Bailey, & Pearce, 2005; Rodrigue, Morgan, & Geffken, 1990; Sivberg, 2002).

One of the widely used measurements is the Family Crisis Orientated Personal Evaluation Scales (F-COPES; McCubbin, Olson, & Larsen, 1991). It contains 30 coping behavior items in five subscales: Reframing (positively reframing events to make them more manageable, e.g., “Knowing we have the strength within our own family to solve problems”), Passive Appraisal (minimization of response to problematic issues, e.g., “Believing if we wait long enough, the problem will go away”), Acquiring Social Support (from relatives, friends, extended family, and neighbors), Seeking Spiritual Support, and Mobilizing the Family (mobilizing the family to acquire and accept help from community resources). Studies using F-COPES showed that the use of Passive Appraisal Coping and beliefs about the efficacy of the intervention moderated the effects of autism symptomatology on parents’ pessimism. It also indicated that active coping strategies may play an important role for reducing parents’ stress related to disability severity. Some intervention can be provided to parents for helping them to recognize the support from formal or informal resources and encouraging parents to reframe negative events in a more positive light (Hastings & Johnson, 2001).

Ways of Coping Questionnaire (WOC; Lazarus & Folkman, 1984) is another tool for studying specific types of coping behavior. It provides scores of coping on eight different dimensions: confrontation, distancing, self-control, social support, accept responsibility, escape, problem solving, and re-appraisal. Ways of Coping Scale (WCS) is a modified version (Felton, Revenson, & Hinrichsen, 1984) of the WOC (Lazarus & Folkman, 1984). The WCS was designed to assess coping strategies along six dimensions: cognitive restructuring, emotional expression, wish-fulfilling fantasy, self-blame, information seeking, and threat minimization. A study using the WCS found that mothers of children with autism reported using information seeking, wish-fulfilling fantasy, and self-blame as coping strategies more often than mothers of developmentally normal children. However, they use less cognitive restructuring than mothers of children with Down syndrome (Rodrigue et al, 1990). Thus, for resulting a successful family adaptation, some parents who reported low parenting competence and the use of self-blame strategy may need help or intervention to develop the more positive and optimistic strategies, such as cognitive restructuring or seeking for social

support.

The Brief COPE is an inventory with 14 subscales representing a broad range of coping strategies (Carver, 1997). Hastings et al. (2005) gave the Brief COPE to 74 mothers and 61 fathers of preschool and school-age children with autism to complete this inventory. The results of a factor analysis revealed four reliable coping dimensions: active avoidance coping, problem-focused coping, positive coping, and religious/denial coping. In addition, active avoidance coping was related to more stress and mental health problems in both fathers and mothers, and the positive coping was associated with lower level of depression in fathers and mothers. Therefore, positive coping including the use of positive reframing of stressful events may be one of the effective coping strategies for family members to cope with many difficult conditions (Hastings et al, 2005).

## 5. CONCLUSION

Many studies from different countries and cultures suggested the consistent findings about the coping and stress of parents of children with autism. Most of them agreed that self-blame and escape-avoidance strategies may lead to more psychological distress and mental health problems. On the other hand, parents who use positive reframing strategies and problem-focus coping may perceive less stress and depress. Parents who can reinterpretation or reappraisal the meaning of stressful events with acceptance and humor usually reported better life satisfaction than parents who use avoidance coping. In addition, informal social support sources from spouse, friends, neighbors, and extended family are also very helpful for parents to develop a successful adjustment (Benson, 2006; Bromley, Hare, Davison, & Emerson, 2004; Hastings & Johnson, 2001; Hastings et al, 2005; Shu & Lung, 2005; Tunali & Power, 2002). Reviewing these findings of previous studies may remind the child care professionals to understand the unique parent needs and concerns in different family or social background. We also need to more comprehensively consider the different types of coping strategies and support sources which may be useful to families and parents. These are valuable materials for service providers to work with parents to develop suitable support programs and effective coping strategies for reducing reliance on avoidance coping and increasing the use of positive coping strategies. Finally, the appropriate services and family-centered early intervention programs can be designed for children and their parents to improve not only children's development but also family adaptation and quality of life.

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## Education II

14:30-16:15, December 15, 2012(Room 3)

**187: Development of an Evaluation Model for Korean National Vocational Education System**

*Hea Jung Chang*

*Korean Research Institute for  
Vocational Education and Training*

*Ji Hyun Shim*

*Korean Research Institute for  
Vocational Education and Training*

**188: Critical Review on Human Capital Theory and Its Applicability on Vocational Education**

*Ji Hyun Shim*

*Korean Research Institute for  
Vocational Education and Training*

*Hea Jung Chang*

*Korean Research Institute for  
Vocational Education and Training*

**204: The Exploration of Collaborative Learning Mode Based on Network Environment in Modern Distance Education**

*Xiaoyu Man*

*Dalian University of Technology*

*Yu Mei*

*Dalian University of Technology*

*Han Yan*

*Dalian University of Technology*

**233: The Study of Correlation between the Levels of Exercise and Depression among University Students**

*Ping Ting Hsieh*

*John Tung Foundation*

*Ya Hsing Yeh*

*John Tung Foundation*

*I Chun Tai*

*John Tung Foundation*

*San Wei Chou*

*John Tung Foundation*

*Ming Chieh Lin*

*John Tung Foundation*

*Li Ting Lee*

*John Tung Foundation*

**095: Effects of Modified ACT Program for the Psychiatric Rehabilitation of  
People with Severe Mental Illness**

*Moonsook Yoo*

*Ajou University*

*Young Hee Kim*

*Ajou University*

*Myung Sun Hyun*

*Ajou University*

*Jin Hee Park*

*Ajou University*

*Kyung Hee Ha*

*Ajou University*

## Development of an evaluation model for Korean national vocational education system

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### ABSTRACT

Korean vocational education has been rapidly expanded in terms of its quality and quantity since the government has been established. Basically Korean national vocational education policy about unemployed workers focuses on vocational education and training for the unemployed aimed at cover all socially vulnerable objects and clams to advocate labor welfare. Following government's strong will to labor welfare, more than 4,000 training institutes are established and train the unemployed approximately 400,000 per year and annually 1 billion dollar is spending for vocational education and training in Korea.

However, there are rising expressions of concerns about the growth. The development of Korean national vocational education system (KNVES) has been more focused on its growth in quantity. While growth if quantity has been more valued in Korean society, the quality of the system has been disvalued. Based on the concern, this study tries to develop a policy evaluation model for KNVES and suggest political applications so that building internal stability in the system. The development process progressed as follow; to draw out current problems and core stakeholders, several experts meetings and conferences were held; to develop its theoretical foundation, intensive literature review was carried; to develop an initial evaluation model, several workshop was took place; to verify the initial model, simulation and survey was performed; to develop final evaluation model, results were analyzed and additional workshop with main stakeholders was held.

Final evaluation model for KNVES was developed basically on the Chen's theory driven evaluation (1990, 2004, & 2005) and consist with two parts, action model and change model. In the Chang model, the relationship between interventions needed each part and their expected performance was suggested. In Action model, the expected action of each stakeholder for successful objective completion was clearly suggested. The final version of the evaluation model is the combination of the action and change model. In spite of its limitations, the final model and its contents is expected to be useful for policy makers by breaking each stage and clarifying stakeholders, their expected roles, and interaction between them and each stage's objective.

Keyword: education evaluation model, nation policy on vocational education

## Critical review on Human capital theory and its applicability on vocational education

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### ABSTRACT

Human capital theory (Becker, 1993) which assumes the positive relationship between education and training, and workers' productivity and lifetime income has been considered one of the main theories that support education's economic thought. Especially human capital theory has been proved its impact on education and return of investment in under-developing countries and East-Asian countries that experienced rapid economic growth. Following previous theorists in Human capital theory, Korean government has been invested huge budget in education and expanded every citizen's educational opportunity for industrial development and economic growth.

However, there are some theorists who approach critically and warn the danger of indiscriminate application of the theory. Similarly, this study critically analyzed previous research studies in human capital theory and tried to figure out what other variables should be added to increase theory's accountability. Through intensive theoretical review, this study included participants' age, gender, education length, education cost, education program, education satisfactory level, satisfaction to counseling as independent variable and employment as dependent variable for analysis. Logistic regression was used for analysis of 33,555 participants' data.

The result shows that employment found to be higher if the participants were younger and male. Also, it was found that employment tendency increases when the participants satisfied with training program and see the relationship between the program and employment possibility. Additionally people who completed intensive but short period training program were found to be higher in employment. The result implies that participants' demographic characteristics and factors affecting program's quality should be considered in the field of education.

Topic area: Adult and continuing education, Labor market

Presentation preference: poster session/ type: Research Paper



## The Exploration of Collaborative Learning Mode Based on Network Environment in Modern Distance Education

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### ABSTRACT

In modern distance education, the traditional teaching mode already cannot adapt the training requirements of applied talents; collaborative learning mode gradually becomes a new type of teaching mode which promotes modern distance education development and improves the quality of teaching. This article takes the reform of business management course as an example to explore how to make collaborative learning mode work better in the modern distance education.

Keywords: collaborative learning, modern distance education, case study, instructional design

### 1. COLLABORATIVE LEARNING MODE OVERVIEW

In recent years, without restrictions of time and space, network-based modern distance education becomes more and more popular among on-the-job students. However, the traditional teaching method is not suitable for the modern distance education in the requirements of applied talents. Therefore, collaborative learning has gradually become one of the modern teaching modes promoting the development of modern distance education and improving the quality of teaching. Collaborative learning mode has an irreplaceable function to train students on understanding questions, analyzing questions, solving questions of the collaborative ability and actively constructing knowledge system. During the collaborative learning process, students can not only gain knowledge, but also can develop their collaborative-working skills and learning capacity through cooperation with others. As a result, fully understanding of collaborative learning is quite important for modern distance education, and in the paper, business management course would be an example for the analysis of collaborative learning.

#### 1.1 Concept of collaborative learning mode

Collaborative learning mode is a team learning mode instructed by teachers in support of network environment which is based on the “double-subject” teaching mode of Professor Kehang He, and absorbs instructional design ideas of Smith – Reagan model and constructivist learning theory. Collaborative learning mode aims at

achieving teaching objectives efficiently through the collective synergies of group internal collaboration and the aggregate power of intergroup competition. (Yang, Li & Hu, 2002, p.12-18)

Network-based collaborative learning in modern distance education refers to use computer network and multimedia technology to establish a collaborative learning environment for students to discuss and cooperate with each others, in order to understand and grasp knowledge better. (Chen, 2004, p.15)

### **1.2 Features of collaborative learning mode**

Team members in the learning mode should shoulder the responsibility together and stress task and group cooperation. They discuss problems, debate and solve conflicts by themselves. To sum up, the main features are listed as follows:

Combination of shared responsibilities and personal responsibilities among group members. Collaborative learning mode is in the form of groups and group members learn from each other to pursue maximizing of team achievements and personal acquisition outcomes simultaneously (Zhai & Feng, 2005, p.39-40)

The main duty of tutors transfers from “dominator” into “instructor” which lowers the degree of intervention to group activities. Tutors would evaluate and summarize outcomes of each group after that collaborative learning activities are finished instead of manipulating excessively or interfering during group discussion (Bernard & Lundgren-Cayrol, 2001, p.241-261)

Emphasis on cooperation and exchanges between members of the group. The insufficient interactivity between students is one of the shortcomings of modern distance education. While this shortcoming can be made up by collaborative learning which will help a lot in enhancing communication and exchanges between group members.

### **1.3 Advantages of applying collaborative learning mode in modern distance education**

There are many advantages of applying collaborative learning mode into modern distance education:

It can play the advantages of network-based learning system completely, which benefits the exchanging and sharing of learning resources, promotes students' interactions and improves the efficiency of communication in order to help students to gain more useful information. Through the network-based learning system, students can have a wider range and better quality collaborative learning.

With the help of network media, students can be divided into different groups with a more flexible method. In collaborative learning, it has many divisions on group such as individual group, pair group and team group; moreover, these standards of groups can be changed especially for different kinds of case study, in order to improve the efficiency and effectiveness of students.

Network-based collaborative learning can cultivate students' ability to obtain information, learning ability and social skills, which also help students adapt to distance learning and improving students' lifelong learning ability.

It can break the space and time restrictions for teachers and students, it also can

lead students to get different kinds of experience on study.

During the collaborative learning, teacher plays a leading role and students play the main body. Especially with the help of network, teacher mostly acts the role of instructor and supervisor, and students can completely study by themselves with the active attitude.

## 2. COLLABORATIVE LEARNING MODE DESIGN AND IMPLEMENTATION OF “BUSINESS MANAGEMENT” COURSE

As a professional tutor of business management course in modern distance education, the author strives to research the application of collaborative learning in network-based education. According to the characters of this course, as its unique practicing ability, business management is chosen to help collaborative learning reform, which uses the local studying center as the experimental unit to pursue collaborative learning. Based on research results and discussions, tutors can confirm the main steps of collaborative learning as the below flow chart:

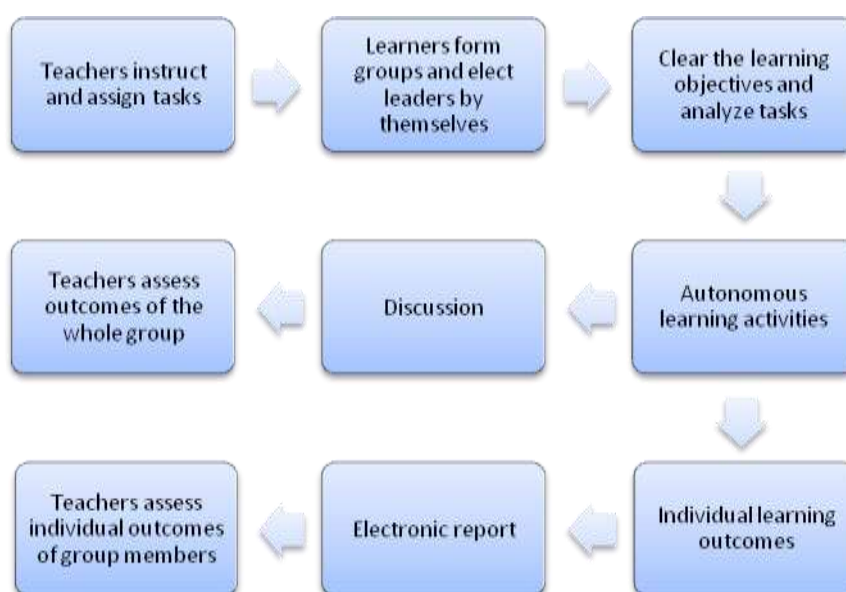


Figure 1: Flow chart of collaborative learning mode

### 2.1 Teaching preparation

#### Design teaching plan

“Business Management” covers a wide range of comprehensive and practical knowledge, which is one of the compulsory courses in business administration major of our school. In order to improve students’ abilities to build knowledge and combine theory and practice, tutors decide to apply case study to this collaborative learning. Through searching for related materials previously, tutors should choose comprehensive real cases and write related questions. Furthermore, tutors also need to set a concrete schedule of this collaborative learning.

#### Explain case analysis methods

For most students, collaborative learning mode and case study are still relatively unfamiliar. Therefore, in order to help students to fully understand this mode and case analysis methods, tutors need to give clear explanation about how to implement collaborative learning mode, what case study is and how to do case analysis these sorts of things previously so that students can have a better understanding about it and have a good learning effect.

### Establish study groups

In this collaborative learning, there are totally 50 students divided into 8 groups(5-7 per group) by themselves. After establishing groups, team members need to discuss and elect their team leaders who are responsible for assigning learning tasks, making learning plans of their groups, and form discussion group on the network learning platform.

### Supervise and guide learning process

Although the collaborative learning mode focus on student' autonomous learning, but tutors are also very important. In the whole learning process, tutors not only supervise learning process of each group, but also guide students to construct knowledge.

### Confirm test form

After knowing students' characteristic, learning foundation and information technology skills, tutors confirm that this course mainly use formative assessment which makes assessment on students' performance during the whole learning process and gives marks combining degrees of their online homework completion.

## **2.2 Teaching process**

### Assign learning tasks

Tutors should give students a clear explanation of learning goals, learning content and learning methods, assist students in grouping and assign cases in groups.

### Autonomous learning of students

As cases in group is the learning task, students search for related materials according to their individual assignment by themselves and communicate with team leader and the other group members by network learning system, e-mail and other ways to make sure the case analysis within the group goes well. Tutors can communicate with students by BBS and e-mail.

### Group collaborative discussion

This is the main step to check and examine students' study results, and this is also an important process to practice students' expression ability. In order for accuracy of learning achievement evaluation, this step use to communicate with students face by face. In different groups, team members need to discuss and analyze within groups, tutors can only listen without joining the discussion.

### Make assessment of the collaborative learning outcomes

In order to motivate students to carry out collaborative learning perfectly, tutors decide to cancel the final exam of this course and assess mainly depends on the process of collaborative learning which will be an important reference of the final grade (Zhao, 2002, p.62-64). Based on students' practical situations and main teaching objectives of collaborative learning, tutors make out the score sheet (shown in table 2). There are 70 points for this collaborative learning activity process, and the last 30 points will be counted depending on the score of online homework and results of online learning.

Table 2: Score sheet for collaborative learning

	Evaluation content	Total score	Score
Attendance	Students can attend the explanation and discussion about collaborative learning	10 points	
Group benchmark points	The group has a positive attitude and high degree of participation	10 points	
	The discussion content is closely related to the chosen topic and theoretical knowledge	10 points	
	Clear-cut division of labour, each one being charged with specific responsibilities	10 points	
	Logical thinking, fluent statement and concise language in report	10 points	
Group members' difference score	Members participate actively with good attitude	10 points	
	Members can state topics clearly according to requirements	10 points	

### 3. SHORTCOMINGS OF THE PRESENT COLLABORATIVE LEARNING PROJECT AND IMPROVEMENT MEASURES

#### 3.1 Analysis of collaborative learning achievement

Generally speaking, the collaborative learning mode reform taken place in the local learning centre is successful. Students have a high degree of participant and most of them think they really can learn something in this mode. Most of the group members have a clear division of labor, know well about content of cases, state clearly and think logically. From these, it is obvious to see that collaborative learning mode reform is well accepted by students in modern distance education and the content of this mode also meet the requirement of improving students' practical ability. However, the author still thinks that there are some issues need to improve:

Modern distance education is mainly for social personnel learners who may not guarantee to do the face-to-face group discussions on time because of their special situation. And now the way of solving this problem is to let students who cannot attend the discussion submit their reports on the related posts in BBS and let tutors to give relative scores. But this measure cannot make sure entire fairness.

The form of group discussion is simple. Only one group adopts "brainstorming session", the leader organizes three brainstorming sessions with different topics after individual speeches made by each group member. The other groups all adopt the traditional mode which is group members speak in turns.

This reform is taken place in the local learning centre which is more easily to perform, but it will be much harder when we implement the reform to the whole country because tutors are not able to supervise in the whole country at the same time. And only using the BBS cannot guarantee the teaching achievement.

### 3.2 Improvement measures

In order to solve those problems listed above for a better spread of collaborative learning mode in modern distance education, the author thinks there are some aspects needing improvements as follows:

It is necessary to develop a platform for collaborative learning using videos to perform the group discussion activity. Shown as Chart 2, the platform should contain information system, answering system, multiplayers online communication system and multiplayers video discussion system. Tutors can use material system to upload case study method and references for students; students can log in answering system to contact with tutors; during their self-study process, students can communicate with each other online directly by online communication system; and after all, tutors and students can use the multiplayer video discussion system to discuss with their own computers in different places and instructors can make assessment depending on the discussion process.

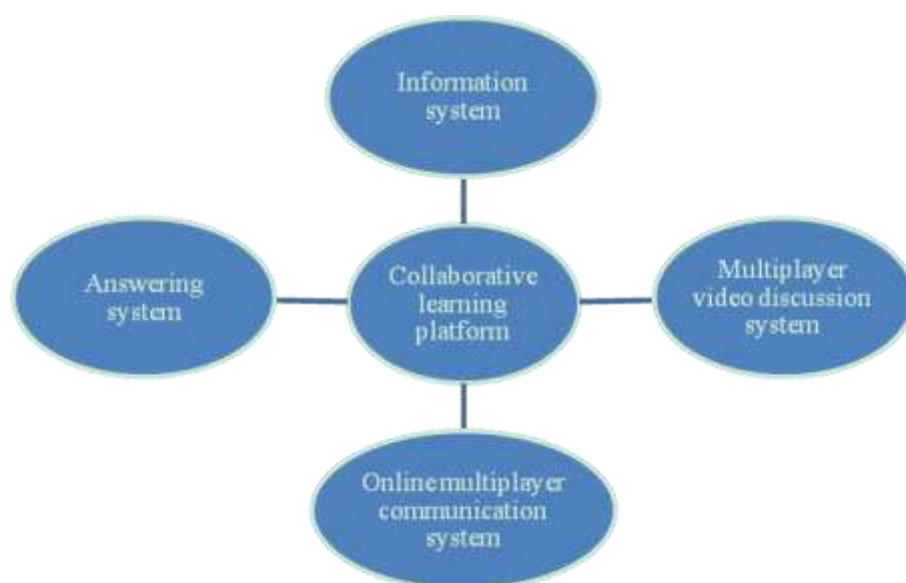


Figure 2: Model of network collaborative learning platform

As the population of students is large and their locations are separate, assessment cannot be made only by tutors in one department. So more tutors in different learning centres in the whole country need to be employed to do the supervision and make assessment and these tutors should have a certain level of related knowledge, be objective and just and give scores according to the consolidated standards made by the department.

Tutors should encourage students to adopt various ways of interaction, such as a debate, scene simulation and so on. They can even do group discussion without leaders in a group. In this way, the requirements of case selection and arrangement are higher and students should be motivated with more enthusiasm.

## 4. CONCLUSION

Implementing collaborative learning mode helps a lot in making up some shortcomings in modern distance education, strengthening interactivity both between

tutors and students and among students themselves, constructing a platform for Business Management major to apply theoretical knowledge into real case analysis and motivating students. But based on the analysis above, it's easily seen that more exploration and effort need to be made if we want a wide range of applications and promotion of collaborative learning.

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## The Study of Correlation between the Levels of Exercise and Depression among University Students

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### 1. INTRODUCTION

To understand the correlation between the levels of depression and exercise among Taiwanese university students.

### 2. METHODOLOGY

A self-designed questionnaire was assessed by the test and content experts for its validity and a preliminary test was conducted before it was officially used for survey. The survey was conducted from May to June, 2012. Total of 6,960 questionnaires were sent to 58 universities in Taiwan based on stratified random sampling. There were 5,515 valid questionnaires. The data was analyzed by SPSS17.0 Chinese version for statistics to calculate the frequency distribution and percentage of depression level, exercise situation and other variables. Chi-squared analysis and T-test were used to explore the correlation between university student's exercise status and depression level.

### 3. RESULTS

The study used Taiwanese Depression Scale as the measurement tool. It was found that 18.7% of the respondents has apparent depression and in need of professional assistance. Further analysis pointed out that the depression level in female was higher than male. 88.1% of the respondents considered exercise important and 90.5% felt they need to take more exercise, but 78.1% of the respondents took less than three times of exercise weekly. It also found that 23.3% of students always or often exercise when they had bad mood and 87.4% of these students thought they felt better after exercise. The result also shows that 94.1% of respondents were willing to do exercise if invited by others. The more frequently the families and friends (parents, relatives or good friends) of the respondents took exercise, the respondents would take more exercises.

### 4. CONCLUSION

18.7% of university students have obvious depression. In other words, there are expected to be 250,000 out of total 1.35 million Taiwan university students having obvious depression and in need of professional assistance. Releasing stress properly helps relieve stress and depressive mood. John Tung Foundation best recommends "exercise", as it is the most economic way to release stress without any time and space limit. The result also indicates that there exists a gap between university student's cognition (exercise is important) and behavior (exercise habit) but 94.1% of



university students are willing to take exercise if invited by others. Accordingly, the government and schools should organize more team sports activity with less competitiveness and more fun, in addition to encouraging the public to make the habit of taking exercise for pressure releasing. Parents and teachers can also encourage university students to participate in or establish sport-related clubs to foster the habit of exercise as the mutual care and supports are good for mental and physical health.

## Effects of Modified ACT Program for the Psychiatric Rehabilitation of People with Severe Mental Illness

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### ABSTRACT

**Objective:** This study was to evaluate the Modified ACT Program for people with severe mental illness from one mental health center. ACT(Assertive community treatment ) is a kind of educating and supporting program for the mental illness people based on the community. However, recent studies have shown little or no effect of such programs in Korea.

**Methods** Non-equivalent control group quasi-experimental research design was used to investigate the effectiveness of the Modified ACT Program on psychiatric symptoms, social functioning, and quality of life from August 2011 to February 2012.

The participants were 63 people with severe mental illness recruited from one mental health center. 31 participants were assigned to the intervention group and 31 to the control group. The intervention group was given the developed the Modified ACT Program for 6 months, whereas only the usual care was given to the control group. For data collection, psychiatric symptom, social functioning, and quality of life were measured at baseline and at after program. The data was analyzed by descriptive analysis, chi-square-test, independent t-test with SPSS/WIN version 18.0 program.

**Results:** The level of psychiatric symptoms of intervention group who taken the Modified ACT Program showed lower level than control group( $t=2.52, p=.014$ ). Also the intervention group showed higher level of social functioning( $t=3.59, p=.001$ ), and quality of life( $t=2.15, p=.035$ ).

**Conclusions:** The Modified ACT Program developed for people with severe mental illness reduced psychiatric symptom and promoted social functioning and quality of life. Therefore further research are needed to apply the Modified ACT Program as an effective nursing intervention of psychiatric rehabilitation program in clinical settings.

# Education III

**10:00-12:00, December 16, 2012(Room 3)**

**242: Why Are They Outstanding? Evidence from TIMSS 2007**

*Jenjang Sheu*

*National Chung Hsing University*

**253: Facilitating Self-Directed Learning Using Agile Methods**

*Yuk Hei Lam*

*Technical And Further Education*

**256: Understanding Developmental Aspects of Discriminative Perception of English Vowel & Consonant Minimal Pairs**

*Hirokatsu Kawashima*

*Nagasaki University of Foreign  
Studies*

## Why Are They Outstanding? Evidence from TIMSS 2007

Jenjang Sheu  
National Chung Hsing University

### 1. INTRODUCTION

Hong Kong, Singapore, and Taiwan are 3 countries with similar cultural heritage, ethnic background, immigrant history, colonial influence, religious background, political system, traditional family structure, and level of economic development (Jeng & McKenry, 2001). According to the TIMSS science report from 1999 to 2007, students in these 3 countries demonstrated excellent performance in science. Particularly at the eighth grade level, the TIMSS 2007 in Singapore and Taiwan had the highest average achievement in science; Hong Kong also performed well (Martin et al., 2000, 2008; Martin, Mullis, Gonzalez, & Chrostowski, 2004). Hence, this research provides an overview of the performance of students from Hong Kong, Singapore, and Taiwan in the prominent international comparisons of TIMSS 2007 and addresses what kind of factors leading to the outstanding science performance in these 3 countries.

### 2. THEORETICAL BACKGROUND

#### 2.1 Student-Level Factors and Achievement

Attitude is a precursor to achievement (Osborne, et al., 2003). Numerous studies have shown positive attitudes toward science as an important predictor of science performance and learning (Martin et al., 2000; Mattern & Schau, 2002; Neathery, 1997). To investigate how students think of their science abilities, TIMSS created an index of student self-confidence in learning science (SCS). Studies have shown the positive relationship between self-confidence and school achievement (Kleitman & Moscrop, 2010; Kung, 2009; Stake & Mares, 2001). To investigate how students feel about science, TIMSS created an Index of Student Positive Affect toward Science (PATS). A large body of research shows that positive and negative affect influences cognitive processes that can be used as information to drive decision making and motivation (Armitage, 2008; Armitage, Conner, & Norman, 1999; Aspinwall, 1998; Erez & Isen, 2002; Trope & Neter, 1994; Trope & Pomerantz, 1998).

#### 2.2 Teacher-Level Factors and Achievement

This study attempted to relate teacher expectations (TCHES), teacher self-perceived preparedness (TP), years of teaching experience (TY), and teacher gender (TG) to student science achievements by using the TIMSS 2007 teacher sample among Hong Kong, Singapore, and Taiwan.

According to the literature review, the purpose of this study was to explore the effects of student- and teacher-level factors on students' science achievement at eighth grade level in Hong Kong, Singapore, and Taiwan. The TIMSS 2007 data for the 3 countries were examined using Hierarchical Linear Modeling (HLM) analysis to address the following research questions:

- (1) What student-level factors are significantly related to science achievement at the eighth grade level in Hong Kong, Singapore, and Taiwan?

- (2) What teacher-level factors are significantly related to science achievement at the eighth grade level in Hong Kong, Singapore, and Taiwan?
- (3) How much of variance in student achievement is explained by student- and teacher-level factors in each selected region?
- (4) Is there any significant interaction effect across student- and teacher-level factors which are related to science achievement in each selected region?

### 3. METHOD

#### 3.1 Contextual model

To understand better how student and teacher factors relate to science achievement, based on the previous literature review, the following contextual model was developed, there were two clusters of factors: student and teacher variables (Figure 1).

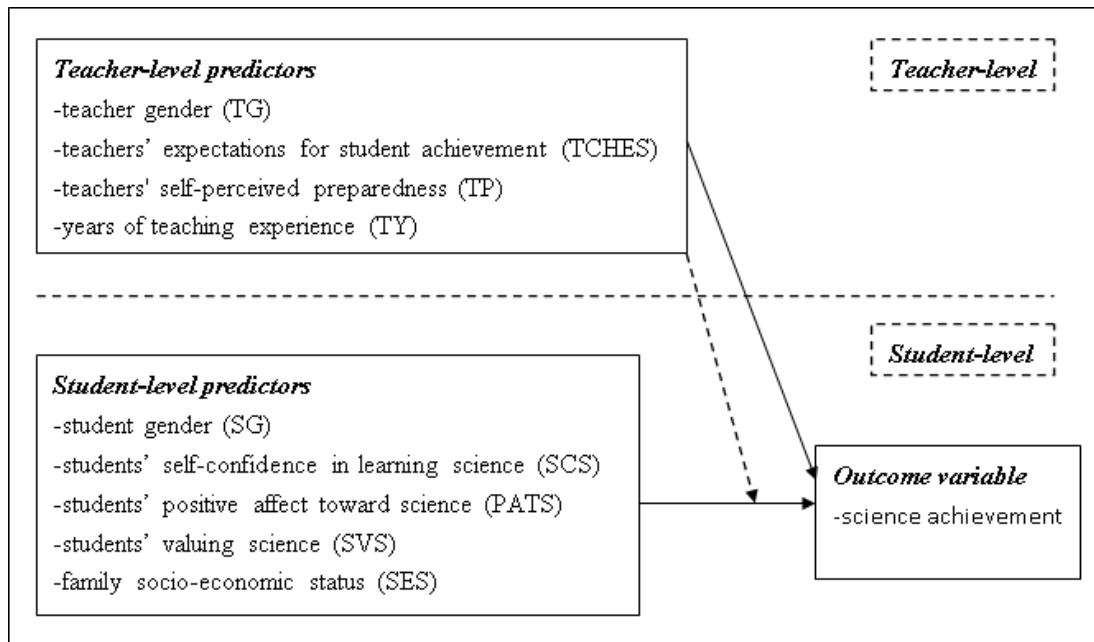


Fig. 1: Contextual model of the relationship among science achievement, student- and teacher-level factors

#### 3.2 Data Analyses

Two-level HLM was used to explore the relationship between student science achievement and the hypothesized predictors in this analysis, where students were the level 1 and teacher were the Level 2 units. The analysis followed the three-stage approach of multilevel modeling.

The equations derived from the conditional model as the followings:

$$\text{Level-1 (student): } \textit{Science Achievement}_{ij} = \beta_{0j} + \beta_{1j} (\textit{SG}) + \beta_{2j} (\textit{SCS}) + \beta_{3j} (\textit{PATS}) + \beta_{4j} (\textit{SVS}) + \beta_{5j} (\textit{SES}) + r_{ij}$$

$$\text{Level-2 (teacher): } \beta_{0j} = \gamma_{00} + \gamma_{01} (\textit{TG}) + \gamma_{02} (\textit{TCHES}) + \gamma_{03} (\textit{TP}) + \gamma_{04} (\textit{TY}) + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11} (\textit{TG}) + \gamma_{12} (\textit{TCHES}) + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21} (\textit{TCHES}) + u_{2j}$$

$$\beta_{3j} = \gamma_{30} + u_{3j}$$

$$\beta_{4j} = \gamma_{40} + u_{4j}$$

$$\beta_{5j} = \gamma_{50} + u_{5j}$$

Note: ***bold italic***: grand mean centering.

## 4. RESULT AND DISCUSSION

### 4.1 The effects of student-level variables

To answer the first research question, a random coefficient model with student-level factors was run with HLM, five student factors including SG (0=Girl; 1=Boy), SCS, PATS, SVS, and family SES were added. The results showed that there was no significant difference between the science achievement of boys and girls in Singapore. Differences were significant in Hong Kong ( $p<0.001$ ) and Taiwan ( $p<0.01$ ). On average, boys scored approximately 11 points higher than girls in Hong Kong and 8.5 points lower in Taiwan, controlling for the SCS, PATS, SVS, and family SES factors.

Results indicated that student self-confidence in learning science (SCS), student positive affect toward science (PATS), student valuing science (SVS) and family socioeconomic status (SES), excluding SES in Hong Kong, significantly and positively affected the TIMSS 2007 eighth grade science scores in all these regions (see Table I). On average, the increases in the science scores associated with one point in SCS were 11.2 points in Hong Kong, 12.5 points in Singapore, and 15.1 points in Taiwan, controlling other student-level factors. The increases in the science scores associated with one point increase in PATS were 7.3, 4.0, and 12.5 points, respectively, controlling for other student-level factors. As to SVS, the increases in the science scores associated with one point increase in SVS were 4.7 points in Hong Kong, 11.7 in Singapore, and 9.8 points in Taiwan, controlling for other student-level factors. Regarding family socioeconomic status, then the increases in the science scores associated with one point in SES were 13.0 points in Singapore and 17.5 points in Taiwan, controlling other student-level factors.

### 4.2 The effects of teacher-level factors

To answer the second, third and fourth research questions, a conditional model with all five student-level variables (i.e., SG, SCS, PATS, SVS, and family SES) and four teacher-level variables (i.e., TG, TCHES, TP, and TY) was run with HLM. The second research question: What teacher-level factors are significantly related to science achievement at the eighth grade level in Hong Kong, Singapore, and Taiwan? In general, there are no significant relations between the teacher's gender (TG), years of teaching experience (TY), and teacher self-perceived preparedness (TP) and the TIMSS 2007 science scores in all these 3 regions, excluding the teacher self-perceived preparedness (TP) in Hong Kong ( $p<0.01$ ) was a negative relation with student science scores, and it's quite unusual (see Table I). Teacher expectation (TCHES) was significantly related to science scores all in Hong Kong ( $p<0.01$ ), Singapore ( $p<0.001$ ) and Taiwan ( $p<0.05$ ). Teachers owned more expectation to their students leading to achieve higher scores on the science test compared to their counterparts in other classes. In Hong Kong students scored 13.2 points ( $18.38 \times 0.72$ ), 18.8 points ( $25.44 \times 0.74$ ) in Singapore, and in Taiwan, 5.5 points ( $6.99 \times 0.79$ ) higher with one standard deviation increase with the teacher expectation, when all the other factors were held constant.

Table II: The effects of student- and teacher-level variables on science achievement in each country

Type of effect	Hong Kong		Singapore		Taiwan	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
<i>Fixed effects</i>						
Intercept $\gamma_{00}$	520.28***	8.54	559.45***	6.70	566.41***	4.06
<b>Student-level</b>						
SG $\gamma_{10}$	11.24***	2.33	-2.31	3.76	-8.53**	2.86
SG *TG $\gamma_{11}$	—	—	-0.34	5.88	—	—
SG *TCHES $\gamma_{12}$	—	—	4.69	3.12	—	—
SCS $\gamma_{20}$	11.10***	1.42	12.53***	1.69	15.14***	2.05
SCS *TCHES $\gamma_{21}$	—	—	4.80**	1.51	—	—
PATS $\gamma_{30}$	7.31***	1.73	4.02*	1.95	12.52***	2.11
SVS $\gamma_{40}$	4.73*	1.64	11.73***	1.87	9.86***	2.01
SES $\gamma_{50}$	-0.46	1.21	13.00***	1.74	17.50***	1.83
<b>Teacher-level</b>						
TG $\gamma_{01}$	-2.74	11.36	5.07	10.62	-2.89	5.02
TCHES $\gamma_{02}$	18.38**	5.02	25.44***	4.84	6.99*	2.75
TP $\gamma_{03}$	-14.16**	4.68	-2.86	5.57	0.22	2.99
TY $\gamma_{04}$	3.08	6.10	0.19	4.57	1.46	2.46
<i>Random effects</i>						
	Variance	SD	Variance	SD	Variance	SD
	component		component		component	
Between-teacher $u_{0j}$	3544.71***	59.54	3298.45***	57.43	799.93***	28.28
Within-teacher $r_{ij}$	2632.20	51.30	4661.87	68.28	5220.07	72.25
Level 1 variance explained (%)	5%		21%		29%	
Level 2 variance explained (%)	11%		35%		41%	

\*p<.05, \*\*<.01, \*p<.001

## 5. CONCLUSION

### 5.1 Findings of student-level factors

Among the student-level predictors, student self-confidence in learning science (SCS) and student valuing science (SVS) were obviously important variables because they had a positive significant relationship with student science achievement after controlling for other variables in all these 3 selected countries. Previous research has also shown the positive relationship between self-confidence and school achievement (Kleitman & Moscrop, 2010; Kung, 2009; Stake & Mares, 2001). Besides, student positive affect toward science (PATS) had a significant effect on science achievement in Hong Kong and Taiwan; a higher positive affect toward science in students may lead them to higher science achievement. Studies have also shown that when the link between performance and outcomes is made explicit, positive affect improves people's performance and affects their perceptions of expectancy and valence (Erez & Isen, 2002), hence leading to enhanced achievement, higher motivation, and greater persistence (Armitage, 2008).

Family SES played an important role in science achievement both in Singapore and Taiwan, and the result refers to the significant positive connection between family SES and science achievement, meaning that a higher family SES led to higher science performance. Empirical evidence also suggests that a higher SES may lead to higher levels of achievement (O' Dwyer, 2005) and promote successful children (Conger &

Donnellan, 2007).

The gender dynamic in classrooms is frequently portrayed as an important environmental source of gender differences in educational outcomes (Sommers, 2000). Both in Hong Kong and in Taiwan, student gender (SG) had a significant effect on science achievement, although the result showed that in Hong Kong, boys performed better than girls in science, whereas in Taiwan, girls performed better on science tests than did boys. However, student gender had no significant effect on science achievement in Singapore. Certain studies have indicated that gender differences in average test scores identify only some of the manners in which the educational outcomes of boys and girls differ (Dee, 2005).

## 5.2 Findings of teacher-level factors

The results indicate that the pattern for the significant teacher-level variable was nearly the same for Hong Kong, Singapore, and Taiwan. Among the three regions, teacher expectations for student achievement (TCHES) were an important predictor, and had a strong, positive, and significant effect on student science achievement. Students in whom teachers held high expectations were given more leadership and learning opportunities (Hanegan et al., 2008), and perceived more positive academic feedback from teachers, which correlated with high self-concept ratings (Bae et al., 2008), whereas for low expectation, the association of teacher expectation and all student factors is significant and negative (Hanegan et al., 2008; Rubie-Davies, 2010; Rubie-Davies et al., 2010).

This study results also showed that certain variables from the teacher level had no significant effect or even a negative effect on student science achievement. For instance, teacher gender (TG) and years of teaching experience (TY) had no significant effect on student science achievement in these 3 regions. Teacher self-perceived preparedness (TP) had a significant negative association with student science achievement in Hong Kong (a little strange!), but had no significant effect on student science performance in Taiwan and Singapore. Regarding years of teaching experience (TY), previous research has shown the same result as this study did. Some have shown that the effect of teacher experience is weakly related to student learning (Buddin & Zamarro, 2009; Grissmer et al., 2000; Muñoz & Chang, 2007; Swan, 2006), whereas other studies have found teacher experience to be unimportant, and noted no significant results for student achievement (Croninger et al., 2007; Huang & Moon, 2009). Researchers have indicated that although teaching experience at a particular grade level showed a statistically significant association with academic achievement gains, rewarding years of teaching at grade level, not just years of teaching alone, are more important to consider in an effort to improve student achievement (Huang & Moon, 2009). Previous research has indicated teacher gender to have a changing effect on student performance (Buddin & Zamarro, 2009), and gender interactions between teachers and students have a statistically significant effect on a diverse set of educational outcomes (Dee, 2005). However, the evidence of this study shows that teacher gender is not a significant predictor of science achievement, and no interaction effect exists between teacher gender and student gender in Hong Kong, Singapore, and Taiwan. Further research may be needed in gender issues.

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## Facilitating Self-Directed Learning Using Agile Methods

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### ABSTRACT

The concept of self-directed learning plays an important role in adult education. Due to different constraints, not everyone was good at self-directed learning. This paper is to propose an agile-based self-directed learning plan that applies agile methods in facilitating self-directed learning. A case study has been used to demonstrate the usefulness of the proposed method, which provides an incentive to overcome the shortcomings of applying self-directed learning concepts in the context of adult education.

Keywords: Self-directed learning, agile methods, adult education

### 1. INTRODUCTION

The concept of self-directed learning plays an important role in adult education. Many believe the development of self-directed learning skills is essential for long-life learning. With the new and emerging technologies, learners have more chances in applying their learning skills and selecting different course delivery modes (face-to-face, online, etc.). However, several scholars argue that not everyone is good at self-directed learning (Brockett 2006, Corbalan et al. 2010, Kicken et al. 2009b). Different studies have revealed issues in identifying and deciding appropriate learning goals by “inexperienced” learners who do not have sufficient developed self-directed learning skills. This often results in either underestimating or overestimating what they are capable of in self-directed learning.

The facilitators play an important role in solving the above problem. The self-directed learning process requires the help of facilitators to identify and select appropriate learning objectives. Unfortunately, there exists different constraints during implementation. First, it is important for facilitators to know their learners well in advance. As such, they not only know what their learning objectives are, but also what they are capable of (in terms of ability). This issue often neglects in adult education. Furthermore, it is easy to lose track of what needs to be done if there is no formal mechanism in place to monitor the progress. To this end, an agile-based self-directed learning (ASL) plan is proposed. The main concept of ASL plan is to provide a mechanism for facilitators and learners to be more involved in the learning process. As a result, they constantly learn, monitor and review their learning progress using an iterative approach.

The remaining sections are organized as follows: In Section 2, a literature review will be conducted to identify a broad set of considerations that underpin in the ASL plan. In Section 3, the ASL plan will be proposed and the execution of the plan will be demonstrated. Last but not least, the conclusions are laid out in Section 4.

## 2. LITERATURE REVIEW

The early discussion of self-directed learning in the context of adult education was generated by Knowles (1975). He delineated the learning process used by adults was different from that of children (Canipe & Fogerson 2006). He further provided a widely used definition of self-directed learning:

... a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes (Knowles 1975, p.18)

Since then, Garrison (1997) further extended Knowles' idea by considering cognitive and motivational dimensions. As a result, Garrison designed a model that included three overlapping dimensions: self-management, self-monitoring, and motivations associated with learning in an educational context.

### 2.1 Not Everyone is Good at Self-directed Learning

According to Garrison (1997), self-management focuses on the external activities associated with the learning process. The high level of autonomy involved in self-directed learning enables learners to set their own learning goals, manage their learning resources, and ultimately be responsible for constructing personal meaning. Learners should be able to decide what is worthwhile to learn and how to approach the learning task, and therefore, affect the quality of their cognitive learning activities positively.

Unfortunately, choosing what is worthwhile to learn is not an easy task. Several studies have revealed issues in identifying and deciding appropriate learning goals by "inexperienced" learners who do not have sufficient developed self-directed learning skills (Brockett 2006, Corbalan et al. 2010, Kicken et al. 2009b). In particular, Kicken, Brand-Gruwel & van Merriënboer (2008) described that:

Students are better able to make effective task selections if they know their own strengths and weaknesses. However, inexperienced self-directed learners and students with a low level of expertise or little prior knowledge have poorly developed self assessment skills, insufficient knowledge of performance standards (i.e. criteria, values, attitudes), and do not know what they do not know. This makes these students prone to base their decisions on a subjective, distorted perception of their learning, resulting in inappropriate task selections or ending practice too early because they believe that they have already reached the desired goals. (kicken, Brand-Gruwel & van Merriënboer 2008, p.226)

### 2.2 Problems with Multitude of Choices

Choice overload is one of the problems that received attention in the recent research. Schwartz (cited in Brockett 2006, p. 27) described this phenomenon as the paradox of choice – too many choices could potentially have a negative impact that result in reducing the likelihood of making good decisions.

Brockett (2006) further elaborated this concept in the context of self-directed

learning. Brockett indicated that freedom and choice could potentially have negative impact on self-directed learning, and agreed with Schwartz that ‘the fact that some choice is good doesn’t necessarily mean that more choice is even better.’ To solve the problem, it is important to help self-directed learners make good decisions and educate them that there are times when choosing not to learn is a viable option (Brockett 2006, p.31).

Needless to say, facilitators play a significant role and have great influence in this respect. Jossberger et al. (2010) believed that facilitators should support learners to become competent in the domain but also guide them to become self-directed learners. Brockett (2006) suggested that facilitators should help learners set priorities and follow through on these priorities, which are in line with the findings in Kicken, Brand-Gruwel & van Merriënboer (2008) discussed in Section 2.1.1. Furthermore, facilitators should also help learners deal with feelings of guilt and inadequacy when they choose not to achieve a particular learning outcome (Brockett 2006, p. 32).

### **2.3 Self-Assessment Tools**

The focus of self-monitoring is to monitor the knowledge construction process, which requires skills in self-regulation, metacognition and reflections. To this end, Huynh et al. (2009) pointed it out that learners need to be able to implement appropriate learning strategies to acquire information (e.g., self-regulation), recognize whether the learning goals have been achieved (e.g., metacognition), and determine whether additional information is needed (e.g., reflection).

Many self-assessment tools have been used in helping learners engage in self-directed learning. Benefits of these tools include 1) helping learners visualize the learning path, 2) reflecting what they have learned, and 3) developing learning strategies and activities. Grant and Huebner (cited in Kicken et al. 2009a, p.440) shown evidence in their study that learners who developed a habit of reflection through the use of self-assessment tools will continue to reflect on their own performance in future.

Unfortunately, using self-assessment tools can be a very time consuming exercise. Du (2012) suggested that teachers should continually meet with students to monitor progress, offer encouragement, and work with student to make any necessary changes. In the extreme case I personally experienced, with 200+ enrolments in a subject is almost infeasible to use self-assessment tools. Moreover, not providing comments in real time also contributes to the problem (i.e., by the time facilitators finished all the reviews, students have already completed several learning objectives).

### **2.4 Motivations**

It is interesting and has always been the debate on what motivates people to do what they do. In motivation theory, intrinsic motivation causes people to do something for their own enjoyment, whereas extrinsic motivation causes people to do something for reward or avoid penalty (Schwalbe 2010, p.344).

Motivation plays an important role in success of self-directed learning. It is essential that learners have a desire to learn (i.e., intrinsic motivation) and believe they are capable of achieving the learning outcomes. Furthermore, it is far too important to be motivated throughout the process of self-directed learning.

In literature, many studies in the field of motivations have used a measure of self-directed learning readiness to assess whether learners possess the attitudes, abilities, and personality characteristics necessary for self-directed learning and

lifelong learning (Kungu & Machtmes 2010, Deyo et al. 2011 & Lai 2011). Guglielmine (cited in Kungu & Machtmes 2010) explained that there were two widely used measures of readiness for self-directed learning which were developed based on personality trait: the Oddi Continuing Learning Inventory (OCLI) and Self-Directed Learning Readiness Scale (SDLRS). Some research has proved the usefulness of these measures applied in different domains, but Deyo et al. (2011) argued that the measures may not be useful for predicting the association between readiness and academic performance.

### 3. AGILE METHODS

The mechanism used in ASL plan is primarily based on the agile methodology called Scrum (Keith 2010). Scrum fits well in this paradigm because of its iterative approach in managing activities. Figure 1 displays a generic use of scrum methodology in the context of game development.

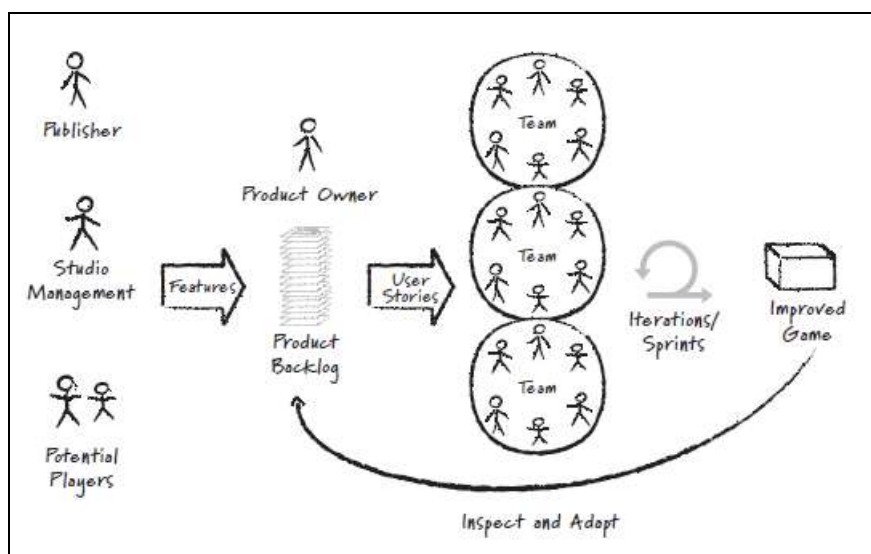


Figure 1 Generic agile methodology. Source: Keith 2010. Page 31

Starting on the left, stakeholders identify features for the game and place these features on a list called the product backlog. The product owner prioritizes the items in the product backlog and expresses them as user stories. Small Scrum teams commit to completing one or more user stories in each iteration, and demonstrating them in an improved version of the game. A ScrumMaster assists each Scrum team, helping them remove impediments to progress and ensuring that they are following the agreed-upon process. The process continues to run until all the deliverables are produced.

### 4. AGILE-BASED SELF-DIRECTED LEARNING PLAN

To demonstrate the usefulness of the ASL plan, it has been used to facilitate self-directed learning in a subject called Virtual Consultancy (VC) offered at Canberra Institute of Technology (CIT).

#### 4.1 Background and Settings

The VC is the project subject for students in their final year of Diploma program. Traditionally, the VC project is delivered in face-to-face mode where students will be put in groups to work on real projects selected by the course coordinator. A classroom is designated to VC project where students will be spending 15 hours per week



working on projects (6 hours each on Monday and Wednesday, and 3 hours on Friday). Because of the self-directed nature of the subject, it is expected that students will work out the method to complete the project and deliver the final product to the client in 20 weeks. In this environment, teachers act as mentors to monitor the progress of each project and provide comments if necessary.

The teaching challenge lies in delivering the subject to part time students. Students not only have to find a suitable project by themselves, but also need to be more self-directed compared to students who are doing the subject in face-to-face mode. It is because they will not be working on the project on campus with the constant supervision of teacher.

In the past, a few students provided comments in the subject evaluation survey indicating that they were lost and confused, and sometimes frustrated. They also commented that when they had to make the decision themselves on what to build in the project they had little help from teacher and most of the time they were not sure whether they were on the right track. In literature, different researchers have also pointed out this setting could cause problems since not everyone was good at self-directed learning. It required the help of teachers to identify and select appropriate learning objectives (Corbalan et al. 2010, Kicken et al. 2008, Kicken, et al. 2009). To this end, the design of the training plan presented in this report is tailored especially for part time students studying in this subject.

#### **4.2 Agile-based Self-directed learning mechanism**

At the start of the subject, each part time student is required to find his/her own project and produce a project proposal. The project proposal must be discussed with the teacher to ensure it is a worthwhile and an achievable project based on different constraints such as the size of the project and the ability of the student. Once it is approved, the student can contact the client to gather requirements for the project. Each requirement will then be placed in the product backlog. The team (teacher and student) maps the requirement with the unit of competencies and prioritizes the requirements in the product backlog.

At the start of a sprint, the team selects a number of requirements from the product backlog. The team then estimates the tasks required to implement each requirement into a sprint backlog. The team only commits to features in a sprint that they judge to be achievable. The team meets weekly during the sprint in a 30-minute timeboxed meeting call the weekly scrum. During this meeting, student inform teacher about his/her progress and any impediments to the work.

By the end of the sprint, the student has completed part of the project and met some of the unit of competencies attached to these requirements. The team gathers in a performance appraisal meeting to evaluate whether the goals of the sprint were met and to update the product backlog for the next sprint based on what they have learnt. At the end of the project, the client will produce a user letter that indicates that the user has tested the system and contains their comments, suggestions, etc.

#### **4.3 Benefits of Adapting Agile Methods**

Self-directed learning is often mentioned as one of the ways to facilitate learning in adult education especially in VET sector. Unfortunately, different researchers have argued that there were different constraints in facilitating self-directed learning (Corbalan et al. 2010, Kicken et al. 2009). In our attempt to solve the problems, we propose an ASL plan to be used in a VC subject. Three major problems in

self-directed learning and the expected benefits of using ASL plan are discussed as follows:

### **Problem 1: Not Everyone is Good at Self-directed Learning**

*Description:* Inexperienced learners do not have sufficient developed self-directed learning skills in identifying and deciding appropriate learning goals. This often results in either underestimating or overestimating what they are capable of in self-directed learning.

*Solution:* Using the ASL plan, teachers are able to work with students in identifying and selecting appropriate learning objectives. This is done by reviewing project proposal and weekly status report. Furthermore, with the recursive nature of the plan, students build up the confidence of task selection at each sprint, and eventually become self-directed learners without support or guidance in task selection.

### **Problem 2: Problems with Multitude of Choices**

*Description:* Freedom and choice could potentially have negative impact on self-directed learning.

*Solution:* With the ASL plan, teachers help students set priorities and follow through on these priorities in the product backlog. With the discussion of the project proposal, the ASL plan also allows teachers to get to know their students well prior to the start of the project. So teachers not only know what students want, but also know what they are capable of.

### **Problem 3: Little or No Self-assessment Tools**

*Description:* Students do not often use self-assessment tools to help them find appropriate learning resources, and design learning strategies and activities.

*Solution:* With the ASL plan, the weekly progress report provides a vision for students to reflect upon their learning. It allows students to regularly assess personal progress, improve learning styles, enhance critical thinking, and modify strategy preferences. Moreover, it gives students the control of selecting their own learning objectives, and at the same time, ensuring they are on the right track in meeting the level of competencies set in the subject. By mapping the requirements with the unit of competencies and prioritizing the requirements in the product backlog, it gives a big picture of individual's learning plan based on the selected learning objectives, and allows students to visualise the whole pathway from start to the final destination.

### **Problem 4: Lack of Motivations**

*Description:* Students are not motivated to do the work, as they might not be able to see the progress while working on the project.

*Solution:* With the ASL plan, students are required to review their work at the end of each sprint and determine whether the goal of the sprint has been accomplished. To this end, students clearly see the path they are heading to, and thus, provide an incentive for motivation.

## **5. CONCLUSIONS**

With the richness of self-directed learning concepts in literature, we have provided a general review of self-directed learning in the context of adult education. Most importantly, we incorporate the concepts of agile methods and self-directed learning

to develop an agile-based self-directed (ASL) plan used in adult education. The case study demonstrated that the proposed agile-based self-directed learning plan resolved four commonly occur problems while applying self-directed learning in adult education.

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## Understanding Developmental Aspects of Discriminative Perception of English Vowel & Consonant Minimal Pairs

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### ABSTRACT

Recent years have seen an increasing number of studies dealing with ESL/EFL listening and steady developments in both theory and practice (e.g., Rost 2011). It must be noted, however, that much of the nature of listening remains unclear and unexplored. Buck (2001: P.51) points out, for example, that there has been no “complete unified descriptions” of the sub-skills of listening. Phoneme identification is claimed to be one important sub-skill of listening, but systematic understanding of its nature has not yet been obtained.

Research was conducted in order to make a contribution to this situation, focusing upon developmental aspects of discriminative perception of English vowel & consonant minimal pairs. Japanese university students (N=230) participated in this investigation, in which they discriminated 15 types of spoken English vowel & consonant minimal pairs (e.g., light-right) and also took standardized English proficiency tests (listening section). These performances were analyzed from various angles, such as how the performance of discriminating English vowel & consonant minimal pairs varies as general listening proficiency increases (measured on a one-five scale, Level 1: lowest and Level 5: highest) and how the strength of coefficient relationships in discriminative perception between English vowel & consonant minimal pairs varies as general listening proficiency increases. It has been found, for example, that higher general listening proficiency does not always lead to stronger coefficient relationships in discriminative perception between English vowel & consonant minimal pairs: statistically significant relationship was found at the lowest level of general listening proficiency, Level 1 ( $r = .33, p < .05$ ), whereas no such relationship was detected at the middle Level 3 ( $r = .08, p < .06$ ).

The presenter, based upon multiple analyses of the collected data, will make an attempt to elucidate complicated aspects of learners' development in discriminative perception of English vowel & consonant minimal pairs.

## Education IV

14:30-16:15, December 16, 2012(Room 3)

**275: The Effects of Emotional Education Activities with Famous Paintings on Young Childrens Emotional Intelligence and Creativity**

*Young Ok Kim*

*Chonnam National University*

*Gyurim Lee*

*Mokwon University*

**297: The Effectiveness of Cognitive Behavioural Interventions in Reducing Stress among Nurses Working in Hospitals: A Systematic Review Protocol**

*Annie Lai Fong Mok*

*The Chinese University of Hong Kong*

*Janita Pak Chun Chau*

*The Chinese University of Hong Kong*

*Wan Yim Ip*

*The Chinese University of Hong Kong*

**382: Perceived Social Competence in Career: Results of a Confirmatory Analysis with Portuguese Adolescents**

*Ana Isabel Bastos Mota*

*University of Minho*

*Joana Carneiro Pinto*

*University of Minho*

*Maria do Céu Taveira*

*University of Minho*

*Ana Daniela Silva*

*University of Minho*

*Cátia Marques*

*University of Minho*

**553: Capability of Foundation Engineering Students to Provide Complete Solution for Computational Physics Question**

*Sing Poh Toh*

*The University of Nottingham*

*Malaysia Campus*

## The effects of emotional education activities with famous paintings on young children's emotional intelligence and creativity

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### ABSTRACT

The purpose of this study was to examine to analyze the effects of emotional education activities with famous paintings on young children's emotional intelligence and creativity. The subjects of this study were 40 young children who were 5-year-old. The collected data through pre and post test were analyzed with t-test using the SPSS Program. The results of this study showed that the children in the experimental group scored significantly higher on emotional intelligence and creativity than them in the comparative group. This means emotional education activities with famous paintings are effective to improving young children's emotional ability and creativity. Thus, based on the results of this study, it is necessary to explore the various methods and strategies to train children's sensibility.

Keywords: early childhood education, emotional education activities, emotional intelligence, creativity

### 1. INTRODUCTION

In these days, one of key words in our society includes sensitivity and empathy. This characteristic in a society demands emotional human image that knows how to recognize and sensitively respond to sensibility in an individual or a group. Early childhood is the optimal period that recognizes emotion in oneself and other people and that can practice and train a method of having relationship with other people systematically based on this. Therefore, offering young children with sensibility activity of having medium as famous painting, which has value and significance educationally and culturally, will be conducive to allowing them to possibly prepare for perspective and attitude necessary for creative thinking based on diversity as well as being capable of recognizing many different feelings and controlling and utilizing this depending on each situation. Research questions of this study were as follows:

1. What are the effects of emotional education activities with famous paintings on young children's emotional intelligence?
2. What are the effects of emotional education activities with famous paintings on young children's creativity?

### 2. METHODOLOGY

#### 2.1. Subjects of research

The study subjects were forty 5-year-old children (20 children in the experimental group, 20 children in the comparative group) located in J Province, South Korea. Mean age of children was 68.73months at experimental group and 69.71months at comparative group. They were seen as the homogeneous group.

## 2.2. Instruments of research

The instruments of the study were 'Emotional Intelligence Scale for Young Children' by Kyoung-Hee Kim (1998) and 'Korean Creativity Traits Checklist' by Kyoung-Won Jeon (2001). Specific contents of the instruments are depicted in Table 1 and 2. The collected data were analyzed with t-test using the SPSS 19.0 program.

Table 1: Contents of scale for emotional intelligence

<b>Sub-factors</b>	<b>No. of Questions</b>
Recognizing and expressing self-emotion	9
controlling emotions and impulse	9
Being motivate	12
Showing respect for other people's emotion	10
Relationship with teacher	5
Relationship with peer	5
Total	50

Table 2: Contents of checklist for creativity

<b>Sub-factors</b>		<b>No. of Questions</b>
Cognitive factors	Fluency/Flexibility/Originality	11
	Anti-stereotype/Identity	11
	Curiosity/Spirit of adventure	5
Affective factors	Variety	5
	Sensitivity	4
	Humor	2
	Personality	2
Total		40

## 2.3. Procedures of research

The experimental group carried out the emotional education activities with famous paintings, while the comparative group did activities of appreciating those paintings. Each group was given activities twice a week for 8 weeks (16 times in total). Procedures of research are as follows figure 1:

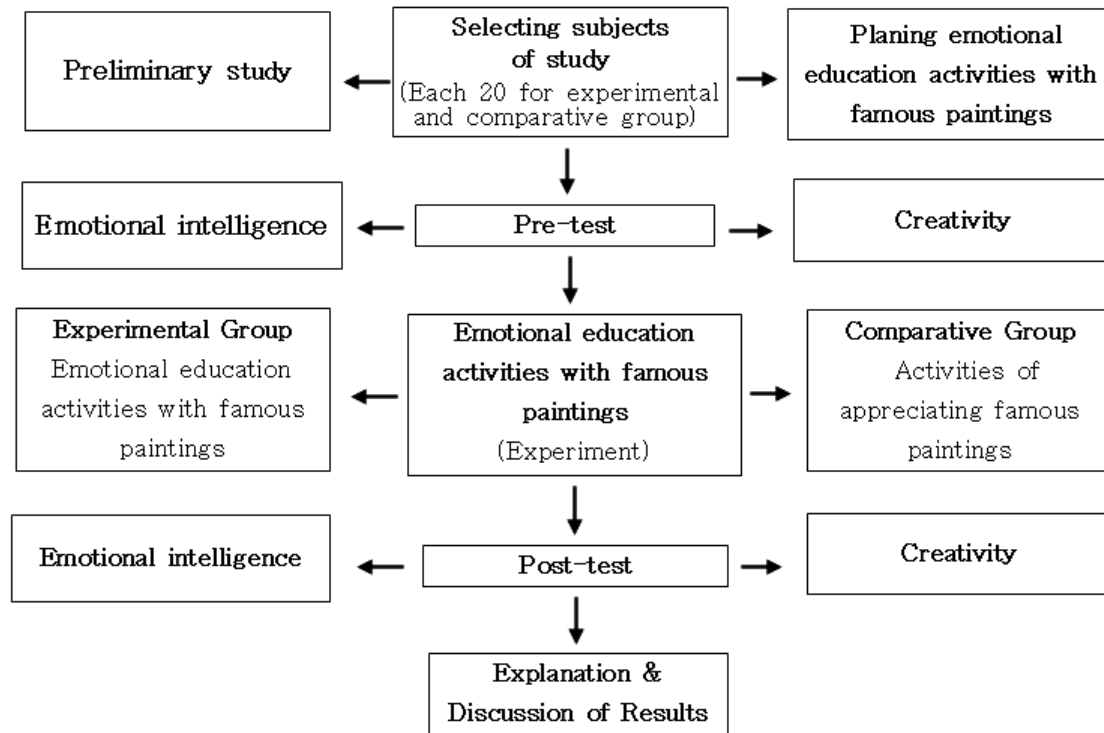


Figure 1: Procedures of research

Based on the literature review and previous research, this study laid out specific goals, contents and methods for emotional education activities with famous paintings. The paintings for the study included Korean and western things and 16 paintings were properly selected. And they were validated by 10 kindergarten teachers with at least 5 years of teaching experience. Table 3 shows the details of the famous paintings and the activities.

Table 3: The details of the famous paintings

No.	Name of paintings	Painter
1	School house	Hong-Do Kim (Korean)
2	A child with a doll	Henri Rousseau (Western)
3	Dano	Yoon-Bok Shin (Korean)
4	Portrait	Vincent Van Gogh (Western)
5	Dancers practicing at the barre	Edgar De Gas (Western)
6	Wrestle	Hong-Do Kim (Korean)
7	The angelus	Jean-Fracois Millet (Western)
8	Smithy	Deuk-Shin Kim (Korean)
9	Maria's wedding	Raffaello Sanzio (Western)
10	Washing place	Su-geun Park (Korean)
11	Four thinker	Peter Paul Rubens (Western)
12	Refuge train	Hwan-Gi Kim (Korean)
13	Dance	Henri Matisse (Western)



14	An ox	Jung-Seob Lee (Korean)
15	Mona Lisa	Leonardo da Vinci (Western)
16	Looking at geese	Seung-Up Jang (Korean)

### 3. RESULTS AND DISCUSSION

The results of examining the effects of emotional education activities with famous painting on young children's emotional intelligence and creativity are shown in Table 4 and 5.

Table 4: Result of emotional intelligence

Factors	Test	Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>
Total	Pre	Experimental Group	20	179.50	18.84	1.90
		Comparative Group	20	167.55	20.70	
	Post	Experimental Group	20	188.20	19.40	3.38**
		Comparative Group	20	168.60	17.09	
Recognizing and expressing self-emotion	Pre	Experimental Group	20	33.75	6.23	1.85
		Comparative Group	20	30.05	6.38	
	Post	Experimental Group	20	35.20	6.08	2.27*
		Comparative Group	20	31.05	5.44	
Controlling emotions and impulse	Pre	Experimental Group	20	27.95	4.03	1.01
		Comparative Group	20	26.55	4.68	
	Post	Experimental Group	20	31.25	4.59	2.31*
		Comparative Group	20	28.00	5.14	
Being motivate	Pre	Experimental Group	20	37.60	4.34	1.29
		Comparative Group	20	35.90	3.94	
	Post	Experimental Group	20	40.95	4.61	2.06*
		Comparative Group	20	37.70	5.67	
Showing respect for other people's	Pre	Experimental Group	20	34.85	4.01	1.60

emotion		Comparative Group	20	32.50	5.16	
	Post	Experimental Group	20	36.85	7.31	2.14*
		Comparative Group	20	31.90	6.14	
Relationship with teacher	Pre	Experimental Group	20	19.35	2.13	.56
		Comparative Group	20	18.95	2.32	
	Post	Experimental Group	20	20.50	2.91	1.17
		Comparative Group	20	19.50	2.43	
Relationship with peer	Pre	Experimental Group	20	20.10	4.58	.86
		Comparative Group	20	19.05	3.96	
	Post	Experimental Group	20	23.45	1.64	4.71**
		Comparative Group	20	20.45	1.05	

\* $p < .05$ , \*\* $p < .01$

Table 5: Result of creativity

Factors	Test	Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>
Total	Pre	Experimental Group	20	22.10	1.68	.47
		Comparative Group	20	21.80	2.28	
	Post	Experimental Group	20	29.65	1.98	6.06**
		Comparative Group	20	25.65	2.18	
Fluency/Flexibility/Originality	Pre	Experimental Group	20	6.05	1.23	.12
		Comparative Group	20	6.00	1.21	
	Post	Experimental Group	20	8.05	.94	2.40*
		Comparative Group	20	7.40	.75	
Anti-stereotype/Identity	Pre	Experimental Group	20	6.20	1.36	1.03
		Comparative Group	20	5.80	1.05	
	Post	Experimental Group	20	7.65	.98	2.30*
		Comparative Group	20	6.80	1.05	

		Comparative Group	20	6.90	1.07	
Curiosity/Spirit of adventure	Pre	Experimental Group	20	3.05	.51	.56
		Comparative Group	20	2.95	.60	
	Post	Experimental Group	20	3.75	.78	1.52
		Comparative Group	20	3.35	.87	
Variety	Pre	Experimental Group	20	3.32	.61	1.71
		Comparative Group	20	2.85	.67	
	Post	Experimental Group	20	4.35	.81	3.89**
		Comparative Group	20	3.35	.81	
Sensitivity	Pre	Experimental Group	20	2.20	.61	.40
		Comparative Group	20	2.10	.91	
	Post	Experimental Group	20	3.75	.71	2.64*
		Comparative Group	20	3.05	.94	
Humor	Pre	Experimental Group	20	.95	.75	.95
		Comparative Group	20	.75	.55	
	Post	Experimental Group	20	1.10	.55	1.85
		Comparative Group	20	.75	.63	
Personality	Pre	Experimental Group	20	.75	.55	.30
		Comparative Group	20	.70	.47	
	Post	Experimental Group	20	1.45	.51	2.61*
		Comparative Group	20	.95	.68	

\* $p < .05$ , \*\* $p < .01$

The purpose of this study was to examine which influence emotional education activities with famous paintings have upon young children's emotional intelligence and creativity. As a result, the emotional intelligence and creativity in children who participated in experiment were significantly promoted. It has been reported a

research (Kim, 2010) that considered its importance and significance with having an interest in young children's emotional education. However, it is considered to be lacking in researches and quests related to how to educate young children in the teaching-learning aspect. Thus, a method of emotional education can be specified more qualitatively if diverse methods of applying famous paintings are explored so that the sensibility training can be performed richly and effectively based on the results of this study. Furthermore, it will be able to become basic data for applying unique and proper media for a teaching method of emotional education.

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## **The effectiveness of cognitive behavioural interventions in reducing stress among nurses working in hospitals: A systematic review protocol**

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### **ABSTRACT**

**Background:** Nursing is a stressful profession. The main causes of stress include intense work environment, emotional burden, lack of organizational support, and dysfunctional relationship with co-workers. Many studies have indicated that work-related stress is associated with physical and mental health problems. Job stress also increased absenteeism, resulted in a high turnover of staff, and affected the quality and continuity of patient care. Numerous studies have indicated that cognitive behavioural therapy was effective in modifying the dysfunctional cognitions and improving their ability to deal with stressful events.

**Objectives:** A systematic review will be undertaken to present the best available evidence pertaining to the effectiveness of cognitive behavioural interventions in reducing stress, preventing burnout, improving mood states, and reducing absence from work among hospital nurses.

**Methods:** This review will consider studies that included nurses working in acute, rehabilitation and convalescent settings, regardless of gender or ethnicity. The search strategy will aim to obtain both published and unpublished studies in English and Chinese. Electronic databases including MEDLINE, CINAHL, EMBASE, All EBM Reviews, PsycArticle, PsycINFO, Cochrane Central Register of Controlled Trials, WanFang Data, China Journal Net, Chinese Medical Current Contents, and Index to Chinese Periodical Literature will be searched from inception to June 2013. This review will consider all randomized controlled trials (comparing the effectiveness of cognitive behavioural interventions). The methodological quality of eligible studies will be assessed independently by two reviewers. Quantitative results of comparable studies will be pooled in statistical meta-analysis and subgroup analysis will be conducted to evaluate the effectiveness of cognitive behavioural interventions in different formats.

**Significance:** The results of this systematic review will provide the vital information to assist nurses to deal effectively with the high complexity of nursing work and job demand.

## Academic experiences of college students in universities of the south region of Brazil

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### ABSTRACT

This study aims to analyze and correlate the academic experiences of Brazilian college students in the middle and final years of their degree program at universities in southern Brazil. Participants include 126 students with a mean age of 23 years old (71.4% male and 54% coming from rural areas), attending courses in Agronomy, Environment Engineering, Agro-Business Technologies and Business Administration. They completed a demographic questionnaire and the reduced version of Academic Experiences Questionnaire (QVA-r) which assesses five dimensions of academic adjustment: personal, interpersonal, career, study-learning, and institutional. Positive correlations were found between career and institutional dimensions and between career and interpersonal dimensions of students' academic experiences, as well as a negative correlation between study and personal dimensions. Women showed higher satisfaction in the study dimension, with students from rural areas showing higher levels of satisfaction in the personal dimension. Moreover, in general, students seem to be satisfied with their career prospects, and with their vocational preparation and peer relations. Although some students report difficulties in organizing their study or fell unsatisfied with their academic results, they register self-confidence and optimism, and seem to be able to emotionally deal with the changes that occur during their college academic life. This is specially observed for those students coming from rural areas. Finally, students' academic experiences in the actual semester, and perceived internal and external resources and support, correlate with their intentions of continuing studies in their course and higher institution.

Keywords: Academic experiences, higher education, young adults.

### 1. INTRODUCTION

In the last decades there has been an increase in the number of the studies concerning higher institutions policies, its curriculum and institutional evaluation.

Despite that, there are still few studies focused on college students, especially about how they experience and what they feel about their own academic route (e.g., Joly, Santos, & Sisto, 2005). In Brazil, there is a lack of studies conducted to approach systematically the academic route of college students coming from rural areas.

In the last twenty years, although the Brazilian government's investment in education has increased, and have seen a rise in applicants to higher education in Brazil, there is still a low percentage of young people who access the university, and a high percentage of college dropouts. Among these are students who are from rural areas (Silva Filho & Lobo, 2012). For these reasons, it becomes important to understand why and what influences college students' decision of give up their higher education universities, and implement solutions to avoid those decisions.

### **1.1 The academic context: Academic experiences and the continuity in the graduation course**

The way students experience the academic environment and integrate themselves into higher education contexts is an unique and complex process, characterized by the gap between students' characteristics and expectations and the academic standards, structure and community (Polydoro, Primi, Serpa, Zaroni, & Pombal, 2001). These last academic dimensions influence students' academic success and their decision to continue or give up the graduation course. According to Pachame (2003), academic experiences can be defined by all the issues directly or indirectly related with college students' participation in graduation courses, and also with the academic events lived before the enrollment in higher education.

To be a college student has a psychosocial impact on young adults development, namely on students' academic adjustment and achievement, since it becomes a period where it generally occurs an increment in students' autonomy, interpersonal relationships, life values and identity. To be a college student becomes a self-construction process, in which the university context is perceived as a significant one, with stimulating experiences and new standards of psychosocial interaction. The impact of this process can cause also negative interferences on the college students' adaptation and experiences (Ferreira, Almeida & Soares, 2001). During the academic course, college students frequently report psychological and health problems caused by the academic stressful situations (Pachame, 2003). According to some studies on academic dropout, students' academic integration plays a determinant role on the continuity or dropout of students' graduation course (e.g., Christie & Dinham, 1991; Terenzini, Redon, Upcraft, Millar, Allinson, Gregg, & Jalomo, 1994; Tinto, 1975). Studies made in Brazil suggest that the commitment with the graduation program of studies is a predictor of the continuity or the escape of students' graduation course, and relates with choice confidence about the graduation course, and with occupational choice certainty, related with the conditions available on campus (Azzi, Mercuri & Moran, 1996; Mercuri & Bridi, 2001; Mercuri & Grandin, 2002).

The difficulties that college students feel are frequently related with the institutions' characteristics and quality, personal problems, and the initial expectations that college students have when they attend higher education for the first time. In fact, it is common to register a gap between the college students' expectations and what the university propose and effectively performs, which can create deceptions for students during their academic experience (Pachame, 2003). According to Almeida and Soares (2003), the academic adaptation and success of students do not depend exclusively from the academic issues, since it also involve student's identity issues, more mature relations with peers, professors and family, and establishment of specific personal and

career goals. In other words, college students' psychosocial development and the way they experience this process becomes significant to academic adaptation, socialization and achievement processes, and to the general satisfaction of students with the higher education institution. This study aims to analyze and correlate the academic experiences of Brazilian college students from rural and urban areas in the middle and final years of their degree program at universities in southern Brazil.

## 2. METHOD

### 2.1 Participants

Participants were 126 students, 71.4% (N=90) males and 29.6% (N=36) females, aged 18 to 44 ( $\mu=23,1$ ;  $\pm 4,30$ ), attending courses in Agronomy (38.1%), Environment Engineering (11.1%), Agro-Business Technologies (23.8%) and Business Administration (27%), from public (49,2%) and private (50,8%) higher education institutions of southern region of Brazil. The majority of these students declared to desire continuing with their graduation course, having 57.1% of them a professional and paid activity (31% in rural areas, 37.3% in urban areas and 7.8% in both areas). From the general sample, 119 of the students answered about their birthplace coming 54% (N=68) of them from rural areas and 40.5% (N=51) from urban areas, and from that total 32.5% (N=41) live in rural areas and 61.9% (N=78) in urban areas.

### 2.1 Measure

Participants fulfilled a demographic questionnaire and the reduced version of Academic Experiences Questionnaire (QVA-r; Almeida, Soares, & Ferreira, 1999; adapted by Granado (2004) and Santos, Noronha, Amaro & Villar (2005). QVA-r is a self-report instrument used to assess students' perception about their academic experiences in higher education, through five dimensions: (a) *Personal* (14 items), related with physical and psychological well-being, and includes issues like emotional stability, optimism and self-confidence; (b) *Interpersonal* (12 items), related with the relationship with peers and significant ones, and the ability establish relationship and to ask for help; (c) *Career* (12 items), related with career issues such vocational projects, satisfaction with the graduation course and the participants' perception about the course they are attending and their career in general; (d) *Study-learning* (9 items), related with the ability to create study habits, manage study time, as get prepared for evaluations, as well as use the learning resources available in the university campus; and (e) *Institutional* (8 items), related with the students' perception about the higher institutions they attend and the existent structures available on campus, and they desire to remain or change university. In the reduced version used in this study, participants answer a total of 55 items using a 5 points Likert scale, in which 1 represents "Nothing to do with me" and 5 represents "Very much like to me".

### 2.2 Procedure

Before fulfill the QVA-r, participants were informed about the general of of the research. Their participation was voluntary and their data was guaranteed

## 3. RESULTS

Table 1 presents the results of the correlations between QVA-r dimensions, suggesting higher positive correlations between *Career* and *Institutional* dimensions ( $r= .44$ ,  $p= .001$ ), and a negative correlation between *Career* and *Interpersonal* dimensions ( $r= .29$ ,  $p= .001$ ). Chi-Square tests were made and suggest an absence of association between sex ( $X^2 (1)= .81$ ,  $p= .37$ ) or the graduation course ( $X^2 (3)= 1.43$ ,  $p= .69$ ) and the desire to continue or give up the graduation course; and the existence



of an association between the graduation course and having a professional and paid activity ( $X^2(3) = 67.53, p < .001$ ), being the Agro-Business Technologies (N=26) and Business Administration (N=33) courses the ones with the highest level of employed students.

Table 1: Academic experiences: Correlations between QVA-r dimensions

Dimensions	<i>Personal</i>	<i>Interpersonal</i>	<i>Career</i>	<i>Study-Learning</i>	<i>Institutional</i>
<i>Personal</i>	---				
<i>Interpersonal</i>	-.15	---			
<i>Career</i>	-.32***	.29***	---		
<i>Study-Learning</i>	-.36***	.19*	.14	---	
<i>Institutional</i>	-.17	.26**	.44***	.08	---

\* Correlation is significant at the .05 level.

\*\* Correlation is significant at the .005 level.

\*\*\* Correlation is significant at the .001 level.

Compare means test suggest the existence of significant differences between females and males in *Study-Learning* dimension ( $t(124) = -2.08, p = .039$ ), being females the ones who show the highest mean values (Table 2). When comparing public and private higher education institutions, there exist significant differences in the *Study-Learning* dimension ( $t(124) = -2.94, p = .004$ ), being the college students from private institutions the ones that presents higher mean values on that dimension (Table 3). Tables 2 and 3 show the results of the mean differences test for females and males, and for public and private higher education institutions, respectively, related with the five dimensions evaluated by QVA-r.

Table 2: Academic experiences: Differences between females and males

Dimensions	Sex		<i>t</i> (124)
	Female (N=36)	Male (N=90)	
	M (SD)	M (SD)	
<i>Personal</i>	41.66 (4.40)	41.99 (4.80)	.35
<i>Interpersonal</i>	40.98 (4.09)	41.91 (3.71)	1.23
<i>Career</i>	42.59 (5.48)	43.97 (4.32)	1.50
<i>Study-Learning</i>	27.83 (3.18)	26.18 (4.31)	-2.08*
<i>Institutional</i>	27.12 (3.74)	27.58 (3.11)	.71

\* Correlation is significant at the .05 level.

Table 3: Academic experiences: Differences between public and private higher education' institutions

Dimensions	Sex		<i>t</i> (124)
	Public (N=62)	Private (N=64)	
	M (SD)	M (SD)	
<i>Personal</i>	41.98 (5.11)	41.81 (4.24)	-.19
<i>Interpersonal</i>	41.35 (3.84)	41.92 (3.82)	.83
<i>Career</i>	43.33 (4.95)	43.82 (4.47)	.58
<i>Study-Learning</i>	26.60 (3.93)	27.67 (3.99)	2.94**
<i>Institutional</i>	27.30 (3.10)	27.59 (3.48)	.049

\*\* Correlation is significant at the .005 level

When comparing the living places, statistical significant differences were found between rural and urban areas in *Personal* dimension, with the students from rural area showing higher mean values on this dimension ( $t(117) = 2.43, p = .017$ ) (Table 4).

Table 4: Academic experiences: Differences between rural and urban living areas

Dimensions	Sex		t (117)
	Rural (N=41)	Urban (N=78)	
	M (SD)	M (SD)	
<i>Personal</i>	43.39 (4.15)	41.22 (4.84)	-.19
<i>Interpersonal</i>	42.02 (3.96)	41.36 (3.77)	.83
<i>Career</i>	43.61 (3.42)	43.71 (5.13)	.58
<i>Study-Learning</i>	25.91 (5.04)	27.08 (3.56)	2.94**
<i>Institutional</i>	27.50 (2.65)	27.40 (3.65)	.049

\* Correlation is significant at the .05 level.

The analysis of variance of academic experiences among graduation courses indicate the existence of significant differences in the Study dimension, in favor of the Agro-Business Technologies students ( $F(3, 122) = 3.99, p = .009$ ) (Table 5).

Table 5: Academic experiences: Differences between the four different graduation courses

Dimensions	Graduation courses				t (3, 122)
	Business Administration (N=34)	Agro-Business Technologies (N=30)	Environment Engineering (N=14)	Agronomy (N=48)	
	M (SD)	M (SD)	M (SD)	M (SD)	
<i>Personal</i>	41.56 (4.19)	42.10 (4.36)	40.76 (6.59)	42.33 (4.62)	.49
<i>Interpersonal</i>	42.12 (3.71)	41.71 (3.40)	40.57 (4.82)	41.58 (3.54)	.54
<i>Career</i>	42.62 (4.52)	45.18 (4.07)	41.74 (6.34)	43.79 (4.44)	2.46
<i>Study-Learning</i>	27.44 (3.72)	27.93 (4.32)	27.21 (3.45)	25.13 (3.97)	3.99*
<i>Institutional</i>	27.29 (3.75)	27.93 (3.17)	26.10 (3.79)	27.66 (2.82)	1.09

\* Correlation is significant at the .05 level.

#### 4. DISCUSSION AND CONCLUSIONS

The main goal of this study was to analyze and correlate the academic experiences of Brazilian college students of the intermediate and final years of their degree program at universities in southern Brazil. The results obtained suggest that, in general, the participants of this sample are satisfied with their professional choice, related with the graduation course and the higher education institution they attend, feeling satisfied with their vocational perspectives and projects. The college students that answered QVA-r believe their academic competences are useful in terms of their preparation to the world of work; they feel confident on their skills, which they believe will help them in their vocational development. The positive correlation found between the Interpersonal and Career dimensions of academic experiences may suggest that friendship establishment and looking for peers help are interrelated issues in academic adjustment, especially in the last stages of the graduation courses. The correlation found between Study and Personal dimensions was negative, which suggest that although students may feel themselves satisfied in personal terms, they can feel the opposite in the study domain.

The results offer important clues about personal aspects in academic experience, related with the importance of fostering students' self-confidence, optimism, physical and psychological well-being, their ability to deal with difficult situations, time management, among others. When we compare females and males the results suggest that women's when compared with males, seem to be more proficient in their studies

management and in achieving their goals.

In turn, students attending private higher education institutions show higher satisfaction levels in Study dimension. This is important information about how employed students can manage their time and arrange study and work, since all graduation courses available in the private institutions that made part of this study only have classes at night, and also the majority of the participants declared to be employed. In turn, the lowest satisfaction levels in Study dimension were registered in students attending Agronomy graduation course, the group were more students play that work role in full-time; this result may suggest that those students are unhappy with their graduation course, or have related personal problems, since most of them are far away from their hometown and can miss family support.

Although career satisfaction involves external issues (e.g., labor market positive expectations, socioeconomic stability), personal identity with a professional area is the major issue for professional satisfaction (Bardagi, Lassance & Paradiso, 2003). When comparing college students that live in rural and urban areas, the results showed that the first ones have higher level of personal satisfaction, which suggest that students coming from rural areas feel more optimistic and self-confidence, being able to better deal with the academic changes, especially in the end of their graduation courses, when the professional future plans' expectations becomes more intense.

In general, the results of this study suggest that college students are satisfied with their graduation course and the higher education institution they attend, and with the interpersonal relationships made on campus and their own personal experiences about their career. In fact, positive academic experiences play an important role in the decision to continue or give up the graduation course. As long as students are progressing in their graduation courses, they start to have more practical experiences like internships, which involves them deeper in their academic live and all issues related, as well as they tend to feel more confident with their academic choice and identify themselves with a professional role.

The evidence that some students don't feel satisfied with their graduation courses or higher education institution may suggest that this students face important problems in time management and in prioritizing their tasks. This result suggest that is important career counselors work with young adults attending graduation courses to help them become more competent in study methods and self-regulated learning, since these are important predictors of dropout. To avoid this type of decisions may be important to offer specific social support when college students come for the first time to university, promoting confidence and positive feelings about this new stage of their personal and professional lives, and helping them to anticipate the negative episodes that can occur, and confronting their expectations with the real live that university campus can offer.

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## Capability of Foundation Engineering Students to Provide Complete Solution for Computational Physics Question

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### ABSTRACT

A 5-components structure for complete solution of computational physics question is proposed to 99 students of engineering foundation program. The 5 components are C1: begin with a physics formula; C2: changing subject; C3: substitute values; C4: one-time use of calculator; and C5: giving final answer with correct unit. Rationales for emphasizing the 5 components are explained and in the first four weeks of lectures students are kept reminded the significance of the 5 components. The capability of students to provide complete solution is investigated via two questions set in the Test 1. Results shows that components C2 and C4 are likely to be overlooked by the students in spite of clear instruction are delivered. To improve, we suggest to further refines instructions to support students' role in learning skills of writing out complete solution.

Keywords: complete solution, physics question, intrinsic factor, vicarious learning, deep approach.

### 1. INTRODUCTION

Skills of presenting complete solution for computational physics questions are essential for engineering students. We propose to foundation engineering students complete solution that contains 5 essential components, namely, C1: the beginning step with a standard physics formula; C2: manipulating mathematical symbols to obtain subject that represents physical quantity to be found its value; C3: values substitutions; C4: one time use of calculator; and C5: final answer with correct unit. It is clear from the 5-components structure that complete solution carries other important information apart from final right answer, for instance how accurate is the physics abstract concepts used, how good is the mathematical skills, how clear is the explanation, how economical is the problem solving strategy, etc. Writing out complete solution is thus a way of communication between the problem solver and reader.

We have 3 years marking test and exam papers experiences for foundation engineering students of The University of Nottingham Malaysia Campus. Our observation is that students present their idea poorly through complete solution, they miss out one or more components listed above. Students of this program have their basic physics learning for at least two years in high schools. It is deplorable that they learn the bad skills of giving complete solution at the same time they learn problem solving.

From the point of view of lecturer, the skills of presenting complete solution are not difficult to learn, but that is in general dis-agreed by students. Why is it so difficult

for students to gain these skills? Why do students concern only the right final answer? Why do students omit unit for final answer? Are all these due to the ignorant of student about the significant of complete solution? Is that because they are not reminded before the exam? Is that because our marking schemes overemphasize the final answer? These questions reflect 3 possible problem sources, namely instructors, teaching-learning system and students themselves. We are very interested to investigate what would happen if problems from first two sources are minimized. If instructors strongly recommend the complete solution to the students and marking scheme is transparently prepared in such a way that each 5 components is given marks, would the situation improve? If the situation is retained under this setting, perhaps we can say the root causes is on the students and we should think accordingly how to provide support to improve their learning.

## 2. METHOD

We have 99 Foundation Engineering 2012/13 students that enroll as their first semester in July 2012. These students divided into two classes and all of them have at least two years of physics learning experiences in their high schools. One of the compulsory modules they require to take in the first semester is Basic Engineering Mechanics A (F40BMA) which is taught by us. Test 1 is held in week 5 and we teach them from week 1 to week 4 for 4 chapters, which are Physical Quantities and Units, Vectors and Scalars, Errors and Uncertainties, and Kinematics, respectively. Each lesson takes about 3 hours.

The notion of complete solution with 5 basic components is articulated in the first day of lecture. The rationales for each component are explained and two examples as well as various incomplete solutions are presented to the students. The rationales are as follow: C1 required as it is normal practice for physicist and engineer; C2 and C3 required in the proposed sequence to speed up problem solving process and to avoid mistakes that easily engendered by figures management. C4 is needed to minimize errors arises from rounding off number. The importance of right unit is stressed in C5, for answer without appropriate unit does not make sense, except those that are unit-less.

As the examples presented are simple, it is expected that some students might doubt that some components are superfluous. For instance, some of them might think it is ridiculous to assume they need to use more than one time calculator to obtain the final answer as  $1.7 \text{ ms}^{-2}$  from  $3/5$  that obtained after C3. Further explanation is needed to clear these doubts. We remind students that not all the question they will encounter in their study is as straightforward as the ones we discuss. On the other hand, the number of lines that need to be carried out in calculation for changing the subject will get longer in the higher level of learning. Another doubt from students is also expected, where they would think that the proposed manner of solution presentation is very rigid and they do not know the number of lines should be given in the solution. This doubt is cleared by distinguishing lines and components. The number of lines required to move from one component to another is not fixed, but the essential 5 components must be there.

Apart from the rationales for the 5 components, we also explain to the students the reasons to emphasize complete solution, namely R1: not only the final answer carries important message; R2: it explains clearly ideas and reasoning of problem solver; and R3: it is a professional ways for physicist and engineer to convey their idea.

We motivate students by telling them that they have basically no problem to get

answer for the examples discussed and their way of presenting solution does not necessarily wrong, but it is the time for them to improve their solution's quality. We tell students that learning should include the process to rectify their old or even wrong skills of problem solving and manner of presenting solution.

To ensure the students to practice writing out complete solution in F40BMA, we remind them in the lectures from week 1 to week 4. At least two of such reminders are incorporated in the slides for the first four chapters. Students also clearly known (repeatedly reminded in lecture) that marking scheme for Test 1 will be prepared according to components required for complete solution. Last reminder to give complete solution is given to students before Test 1 begins in the test venue.

Two of the questions in Test 1 are computational questions that require students to provide complete solutions. The questions are taken from textbook of F40BMA (Chris Mee, 2008). See Appendix I for the questions together with the complete solutions prepared by us as well as samples of incomplete solutions provided by students.

### 3. RESULTS

Students who answer Q1 and Q2 are chosen to analysis their solutions. Nonetheless, those who absent at least once before Test 1 or answer wrongly are excluded. Table 1 shows percentages for components that missed out by students. The numbers of students in samples are 55 and 47, respectively, for Q1 and Q2. It can be seen that students tend to overlook C2 and C4. Only a minority of students do not substitute values in their calculation (C3). The 2.13% in Q2 is the percentage of students that do not give unit to the final answer.

Table 1: Percentages of missed out components for Q1 and Q2

	C1 (%)	C2 (%)	C3 (%)	C4 (%)	C5 (%)
Q1	0	32.73	1.82	27.27	0
Q2	0	51.06	4.26	55.32	2.13

Three points are highlighted for the results obtained, namely H1: the percentages for C2 and C4 are lower in Q1 than in Q2; H2: C1, C3 and C5 for both Q1 and Q2 are extremely low; and H3: Percentages for C1, C3 and C5 are low compare to the percentages for C2 and C4 in both Q1 and Q2. Reflection on these observations would be delayed until Section 5.

### 4. STUDENTS' FEEDBACK

Students' comments tend to agree with the advantages of the complete solution, the reasons given including it is a systematic way of writing solution and it is the easier way to allow people to understand our solution. Many students respond by saying that, "it is ok, I already get used with it". For those who support of giving complete solution, I ask whether they implement it to other modules. From their facial response, I can see that they feel difficult to convince me that they have accepted the idea of complete solution if their answer is no. Some of them do implement it to other modules, especially Light, Wave, and Electrons (F40LWE), and these students appreciate that it would not lose marks simply because they transfer skills learnt from one module to another module. They admit that they will implement it even without compulsion from me or marking scheme. However, most of them purport that it is not suitable for chemistry. Anyway, for all computational questions, independent of



modules, that require complete solution, they say they will implement it.

Most of the students did not give complete solution in their high school learning. However, few of the students say that they did use it in the high school, so they have no problem to adopt it.

There is one student from India informs that he understands the significance of the complete solution only after one of our discussions that happened in my office. In the discussion, he showed me his solution which is not clear in steps, and based on my explanation, he can see how the 5-components structure is good to make explanation clear.

However, there are some students still hesitate to adopt the idea of complete solution. The following are the reasons given by these students: they can solve the question faster by taking their own ways of writing solution; they feel that it is too troublesome to go through the 5-components and they claim that some of the components are in fact not necessary, especially for those questions which are easy, short and straightforward. The reluctance of following C4 is explicitly betrayed by a student who says that it is difficult to use only one time calculator if there are many figures need to substitute. There is also some students concern only about marks in their comments, their response shows that they are regret of the marks lost due to incomplete solution, especially when the final answer is right.

## 5. REFLECTIONS

Learning occurs when experience causes a relatively permanent change in an individual's knowledge or behavior (Anita 1998: 204, 205). Learning thus involves change. The refusal to improve skills of writing complete solution contradicts to the spirit of learning. However, learning is a complex process, its success or failure depends on many factors. A successful learning relies on extrinsic (e.g., is instruction clearly explained) and intrinsic factors (e.g., do students have motivation to learn). The reason we give reminders and examples constantly is to see how the intrinsic factors affect students learning. In the reminder, we stress on (1) the importance and significance of complete solution, (2) the marking schemes prepared according to the complete solution. Observations expressed in H1 and H2 (see Section 3) both show that reminders and examples provided play positive role to help students on writing complete solution. Based on our past marking experiences, I predict beforehand that the percentage of C2 and C4 in Q1 is as high as in Q2 (see H1) and the low percentages of C1, C3 and C5 are a great surprise (see H2).

The salient improvement in C1, C3 and C5 (see H3) is perhaps due to only lower level skills are required and the instruction given is clear for students. To do better in C2 and C4 require higher level of skills, including mathematical skill to manipulate symbols and the mastery of calculator, and in view of the clear instruction given, students' failure to do well in these parts can be attributed to the intrinsic factors.

Change induced by learning is not always perfect and in fact sometimes it incurs worse change (Anita 1998: 204, 205), this is why learning should not be end in one cycle. Foundation students must therefore have motivation to learn again based on the basis they gain from high school which is not necessary good or even wrong in some cases. They must believe that they are able to learn the skills we propose to them. Unfortunately, students are reluctant to reevaluate their past learning and achievement and thus do not set strict learning goal accordingly (see Anita 1998: 392-393 for the

relationship between self-efficacy, motivation and goal setting). One student says that although she agrees the 5-components complete solution is very systematic, but because she is already get used with the high school style, she feel difficult or troublesome to implement to other modules and thus she won't do so without my demand.

Bandura's social cognitive theory differentiates between enactive and vicarious learning (Bandura, Ross and Ross 1963). Although we expect students to solve tutorial questions and re-do examples discussed at home, approaches we use in lectures offer more chances on vicarious learning to students. By showing them at least two examples of complete solution in every lecture and claim that physicist and engineer follow the same manner of presenting solution, we are in fact providing them two models for their vicarious learning. Unfortunately, the effects of these modeling are not satisfactory for C2 and C4. Bandura's theory gives hints to some of the possible reasons, for instance perhaps physicist and engineer are too professional as suitable models for them to imitate.

There do have few students impress us by scoring almost full marks in Test 1. These students have no problem to learn quickly skills of writing complete solution. However, feedback from the one that score full marks is hard to convince us that he takes a deep approach to learning (Richard 2005). Although he agrees the necessity of 5-components to make presenter's idea clear, he learns it merely because it is not difficult to learn and no harm to learn something new. It is thus clear that the 3 reasons (see R1, R2 and R3 in Section 2) provided do not successfully convince students to take deep approach to learn skills of writing complete solutions.

## 6. SUGGESTIONS FOR IMPROVEMENT

Although reflection in Section 5 shows that students' role need to be enhanced to ensure successful learning on writing complete solution, there are something that need to be improved by instructor to support students:

1. More time should be given to students to assimilate concepts and skills introduced. Thus test should be given later, for example in week 7. It is conspicuous that skills needed in C2 and C4 are harder to master compare to the skills required in C1, C3 and C5.
2. Instructor should pick some tutorial questions and ask students to write out their solution on white board. This will provide students chances for carrying out enactive learning. Another advantage of doing this is that, according to Schunk and Hanson (1985), it prompts improvement when students notice their peers are serious and even improving. Giving quizzes is another good means to involve all students on enactive learning.
3. To convince students about the necessity of C2, some of the master or PhD thesis or journal papers that contain long and complex calculation can be shown to the students. This can clearly show them how the experts (model) perform calculation and how calculation would be simplified via symbol manipulation prior to values substitution. As most of the questions students encounter are simple, they thought that symbol manipulate will complicate their calculation and thus reluctant to apply it.
4. To better capitalize peer modeling (Schunk and Hanson 1985), instructor could share with the class the good work in Test 1 given by students.
5. Although marking schemes is clear and simple, which is prepared according to the 5-components structure of complete solution, it does not play a great role to improve students sense of self-efficacy, goal setting and motivation to learn

(Anita 1998: 392, 393), particularly for C2 and C4, because we over-emphasize on marks loss if they do not follow it instead of marks gain if they follow it. To motivate students, instructor should help them to envisage how easy it is to gain high marks by writing out complete solution.

6. It is worth to spend some times to introduce concepts of deep, strategic and surface approaches of learning (Richard 2005) to the students. Only when students are able to appreciate the beauty of deep approach, they can see clearly why the 3 reasons are attractive for them to set “mastery skills of writing complete solutions” as their learning goal.

## 7. CONCLUSION

We proposed 5-components complete solution for computational physics questions to students of foundation engineering. After 4 weeks of primarily observational learning, students are assessed via two questions in Test 1. Result shows that, with clear instruction and marking scheme, students are able to start solution with a formula (C1), substitute values (C3) and giving answer with unit (C5) as these demand only lower level skills, but they are tend to overlook the steps of changing subject (C2) and one-time use of calculator (C4) due to higher level skills of mathematics and mastery of calculator are required. The salient improvements of the former shows that clear instruction and teaching-learning system are important for successful learning. To improve the latter that requires more roles played by students, we proposed to have more chances and times of enactive learning for students, right capitalization of marking schemes to motivate students to learn, and cultivate students' comprehensive understanding about deep approach of learning.

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## APPENDIX I

### **Question 1 (Q1)**

An airliner must reach a speed of  $110 \text{ ms}^{-1}$  to take off. If the available length of the runway is  $2.4 \times 10^3 \text{ m}$  and the aircraft accelerates uniformly from rest at one end, what minimum acceleration must be available if it is to take off?

**Complete solution:**

$$v^2 = u^2 + 2as$$
$$a = \frac{v^2 - u^2}{2s}$$

**Incomplete solution given by students with C2 and C4 missed out.**

$$v^2 = u^2 + 2as$$

$$\frac{12100}{2.4 \times 10^3} = 2a$$

$$5.04 = 2a$$

$$\therefore a = 2.52 \text{ ms}^{-2}$$

**Question 2 (Q2)**

A cricket ball is thrown vertically upwards with a speed of  $15.0 \text{ ms}^{-1}$ . What is its velocity when it first passes through a point  $8.0 \text{ m}$  above the cricketer's hand? Take upward as positive direction.

**Complete solution:**

**Incomplete solution given by students with C2, C4, C5 missed out.**

$$v = \sqrt{68.04} = 68.04$$

# Psychology I

10:00-12:00, December 15, 2012(Room 3)

**182: The Relationship between Parental Bonding and Cognitive Ability among  
6-Grade Children in China**

*Chang Liu*

*Beijing Normal University*

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*Yuexian Ai*

*Beijing Normal University*

**195: Age Differences in Risk-Taking: The Role of Anticipated Regret**

*Jia Gai*

*The Chinese University of Hong Kong*

## The Relationship between Parental Bonding and Cognitive Ability among 6-grade children in China

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### ABSTRACT

While several studies have investigated the impact of parental bonding on children's negative behavioral outcomes, few have studied the effect of parental bonding on children's cognitive development (e.g., intelligence quotient (IQ) and academic achievement). Because cognitive ability has been recognized as playing a significant role in emotional regulation and behavioral control, an understanding of the effect of parental bonding on cognition may help further elucidate the role of parental bonding in child development. Thus, the current study investigated the relationship between maternal bonding, fatherly bonding with children's cognitive ability according to IQ and academic achievement.

**Methods:** As part of the Jintan China Cohort Study, 191 sixth-grade children (96 boy, 95 girl) participated in this study. Maternal bonding and fatherly bonding were tested using the Chinese version of the Parental Bonding Instrument [PBI] which included four subscales: caring, indifference, overprotection and autonomy (Liu, 2010). Cognitive ability was measured through IQ and academic achievement. The IQ of children was assessed using the Wechsler Intelligence Scale (Wechsler, 1984) for Children — Third Edition in Chinese including Verbal IQ and Performance IQ, and academic achievement was assessed using academic records, including Chinese, mathematics and English, through the municipal unified end term examination. Analysis of covariance (ANCOVA) that used maternal and paternal educational background as the covariates was conducted to investigate the IQ and academic achievement difference between high parental bonding children (top 27 percent) and low parental bonding children (lowest 27 percent) in each subscale. <sup>50</sup>Furthermore, Pearson correlation was used to analyze the correlation between parental bonding and cognitive ability of children.

**Results:** The Pearson correlation analysis indicated that maternal caring and maternal autonomy were significantly correlated with IQ (especially verbal IQ) and academic achievement of children. Fatherly caring and indifference were significantly correlated with the academic achievement and fatherly autonomy significantly correlated with IQ (especially verbal IQ) and academic achievement. Further results

shown through ANCOVA indicated that compared to children of low maternal caring or autonomy, children with high maternal caring or autonomy scored significantly higher in IQ (especially verbal IQ) and academic achievement (especially in English). In addition, children with high maternal indifference scored significantly lower on IQ, especially verbal IQ. On the paternal side, the results showed that children with high fatherly caring, or autonomy scored significantly higher in academic achievement scores, especially in math and English; furthermore, children with high fatherly indifference or overprotection scored significantly lower on academic achievement.

In conclusion, early maternal bonding significantly correlated with the IQ of children, especially Verbal IQ relating to linguistic ability, while fatherly bonding significantly correlated with the academic achievement of children, especially mathematics and English scores for Chinese children. The above results remained significant after controlling for maternal and paternal education levels. These results suggest that parental bonding plays an important role in children's cognitive development. Future research testing the role of the cognitive mechanism in the relationship between parental bonding and children's behavioral outcomes is needed.

Keywords: Parental bonding, cognitive ability, IQ, academic achievement

## Age Differences in Risk-Taking: The Role of Anticipated Regret

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### ABSTRACT

The literature examining age differences in risk-taking tendency is met with mixed results. To figure out the possible mechanism(s) that can explain these mixed findings, the current study focuses on the role of anticipated regret, hypothesizing that anticipated regret is a factor leading to the age differences. Through analyzing the results of past studies, whether anticipated regret is possible seems to affect whether age differences can be detected. Moreover, aging people tend to experience a lower level of anticipated regret because of a relatively limited time perspective. In the contrary, the younger seek goals with more promotive outcomes that lead to long-term benefits for them. In the proposed experiment, anticipated regret will be manipulated by different types of feedback. With two almost equivalent risky options, when complete feedback on results of the chosen and the forgone choices was present, anticipated regret over forgone benefit was relatively strong. However, when feedback was partial and only available for the chosen option, anticipated regret was much lower. The results show that when anticipated regret was elicited, the older were more risk-seeking than the younger, choosing the gambling option with a smaller amount of loss but higher probability of loss. Nevertheless, the age difference vanished when anticipated regret was not eliminated. Notably, such findings only appeared in the loss domain. In the gain domain, the young and old do not differ in their risk-taking tendency. The findings imply that the old and young only differ in their risk-taking tendency in the loss domain. And anticipated regret was the causal factor that led to the age difference. Implications of the findings were discussed.

Keywords: Risk-taking tendency, Age difference, Anticipated regret



# Psychology II

14:30-16:15, December 15, 2012(Room 3)

**227: The Teacher Workforce Alienation Preliminary-A Retired High Vocational Teacher Teaching Career under Review**

*Weifen Lin*

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Education*

*Yi Ching Li*

*National Hsinchu University Of  
Education*

**258: The Relationship between Humor Style of Counselor and Burnout**

*Minji Yu*

*Department of Psychology in  
Chungbuk National University*

**279: Effectiveness of the Satir Model Individual Counseling on Anxiety**

*Jaruwan Kansri*

*Boromarajonani College of Nursing  
Chainat*

*Napat Teianukool*

*Boromarajonani College of Nursing  
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## **The teacher workforce alienation Preliminary-a retired high vocational teacher teaching career under review**

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### **ABSTRACT**

The purpose of this study is to find out the current school environment, the influence of teachers' work pressure, teacher efficacy beliefs sticking point, and hoping the government, scholars, educators and parents to understand the current educational environment impact teachers bring. The research questions are what are affecting teachers' work pressure and lead to teacher effectiveness is disheartened and if teachers have enough power or not. The research method is on hermeneutical perspective, in-depth interviews with a purposive sampling the Higher Vocational early retired teacher. The results found that Marx advocated "the alienation of labor" phenomenon could explain the working environment of today's education. Teacher's labor alienation lead teachers have restricted powers, loss of autonomy and creativity, and alienated colleagues and affect the working pressure, reduce teacher effectiveness confidence. Labor alienation also the retired major factors to affect the respondents.

Keywords: retired teacher, working pressure, teacher effectiveness, labor alienation

### **1. INTRODUCTION**

Family Common Wealth Magazine (2010) survey found that for the country ten thousand elementary and junior high teachers, teacher researchers have high self-expectations, but the current situation of low morale contradiction. In response to the release of many government policies, so many teachers retire. Some of them match the criteria and choose to retire without postponement. Taiwan The Awake (2011) reported that the real cause of the teacher would like to retire should be more worse the overall educational environment than in the past, coupled with the overall support measures is not perfect, as teachers timeout taught, heavy work pressure, that teachers certainly feel Better to go and choose to retired over the life you want.

The researcher put into the faculty has more than five years, and deeply modern education work no longer like the one before. Education has been affected by the external environment ideas. To cater to parents and students taste is much important than teacher's professional and idealism. Based on the educational experience and the perceived external social environment, the researcher wants to know working in the

school field what happens to cause the teachers gradually wear and tear of the enthusiasm and the original investment in the education sector. Base on the above problems, the purpose of this study is to find out the sting point affecting teachers' work pressure, teacher efficacy beliefs in the school environment today in order to help government, parents, scholars, educators, parents understand the educational impact to teachers upset and hoping to achieve better education to students by the triple harmony of government, parents and teachers. Research questions are (a) what did affect teachers' work pressure? (b) What did make teacher effectiveness disheartened? And (c) whatever teachers have enough power?

## **2. LITERATURE REVIEW**

### **2.1 Teachers' Work Pressure**

The phenomenon of work stress of teachers has been receiving increased global attention and concern in recent years. Education reform policies were identified as the biggest source of stress for the interviewed teachers. Some studies have found that misbehavior of students and indiscipline are also the major sources of stress for teachers. Moreover, apart from teachers themselves, work stress suffered by them can also adversely affect their students and the learning environment, etc. Teachers may develop chronic feelings of emotional exhaustion and fatigue, negative attitudes toward their students, and feelings of diminishing job accomplishment. Also, the teaching effectiveness of the school system may be damaged by the stress problems of teacher (Chan, Chen & Chong, 2010).

Published by the National Education Association (NEA) "Stress and the Classroom Teacher", working pressure are classified into three major sources: (a) environment factors, including poor teaching resources and equipment, the tumult in the classroom behavior, excessive paperwork, lack of promotion opportunities, poor school organization, and work overload. (b) interpersonal relationships, including family relationships, the relationship between colleagues, and the relationship between the executive and the staff and the community support. (C) intrapersonal relationships, including personality traits, perfectionism, negative self-researchers concept, the lack of plan skills, and expectations of the great achievements(Kou,1994).

Supervisory support, autonomy and positive relations with colleges and parents may be regarded as job resources which may increase job satisfaction and reduce the risk of experiencing burnout (Skaalvik & Skaalvik, 2009)

### **2.2 Teacher Efficacy Beliefs**

The self-efficacy belief of teachers is an important issue in their teaching. Teachers' willingness to teach is an effective factor in orienting students toward the teaching profession. Teachers who have a high sense of efficacy believe in themselves and in their students (Erdem & Demirel, 2007).

Woolfolk & Hoy, 1990 that the field affect teacher efficacy beliefs should not be in the classroom, thus defining teacher effectiveness beliefs are the political forces of the teachers in the school, students learn the success or failure of responsibility, the general philosophy of education and influence to students, the combinations of all extent of such items(Ko & Lin, 2007).

The most powerful source of self-efficacy beliefs are mastery experiences, which involve previous experiences of success and failure. Relevant vicarious experiences

also influence self efficacy beliefs. Another source of self-efficacy beliefs is social persuasion, colleagues or supervisors about a particular act of teaching would enhance one's self-efficacy. People also rely on emotional or physiological states in judging their capabilities. When negative feelings, such as stress reactions or tension are interpreted as signs of poor performance, this results in decreased self-efficacy belief (Boz & Boz , 2010).

### **2.3 Limited Teacher Powers**

Ko and Lee (2011) said that teachers in the power relations duties selection is limited, experienced teachers are often given preference duties or new teachers were asked successor the onerous administrative work as the quality of poor classroom instructors. Council meeting of representation ignoring teacher's views and has to be careful to speak. There is no established Teacher Association and the operation of a limited-Teacher Association, or the Teacher Association chairman duties role of stance somewhat biased and the rights of administrative teachers who are the members of the Teacher Association were not be taken seriously. The above, teachers are not in full possession of the power to the operation of the school development.

### **2.4 Labor Alienation**

Different from the traditional concept of "alienation" is built up to the human ethical values and meaningful social value, Marx's labor alienation is to establish labor alienation in the capitalist economy. The essence of alienated labor was that, in the process of capitalism production, labors not only created products through labor, but also created multiple external existence one after another. With alienation of workers from their own labor products and alienation of workers from their own labor activities, the alienation of human and their own generic essence finally occurred. Workers lost their own essence in their alienated labor and extended to human beings eventually drifted apart from each other (Jiang, 2012).

As capitalism develops and corporations grow larger, there is a general tendency for work to be designed to achieve ever-greater economies of scale, unit efficiencies and labor productivity, thereby enhancing the importance of the productive process, its logistics and technologies over the skills and value of the individual(Brook, 2009). Thus, Workers lack control over the process of production. Capital denudes us of our intrinsic capacity to work creatively and transforms it into its opposite.

Alienated labor theory of Marx explains in the historical process of the development of capitalism. People have alienated themselves from the phenomenon of the labor alienation, and that extend to teachers and colleagues, teachers and students, teachers and parents (Ko & Li, 2011).

## **3. METHOD**

Hermeneutics construct vision to focus on the interaction with understanding of the research and the text. The researcher have worked in the education field more than five years, and the subject is the retired teacher who early step out of education. Based on the same school field, the researcher expects to stimulate viewpoints about working in the school by hermeneutics.

Purposive sampling, semi-structured in-depth interviews way, a total of four times, ranging from 60 to 90 minutes for each. By narrative to the history of her life about involving in teaching career, experience, and the choice to retired. Through interviews and observation and recoding records, and than analysis the content to identify

relevant and meaningful results, summarized and draw important information in response to assumptions and validate the theoretical findings.

The study for an early retirement of teachers at vocational schools, female, unmarried, without forced to retired but voluntary. She had been teaching for 27 years, for five years in elementary school with two different schools, junior high school teacher for one year and finally working in the same high vocational school to retirement. The majority of the time is to act as mentors, a few years as full-time teachers, and no administrative experience.

## **4. RESULTS**

### **4.1 Firstly, labor alienation affecting teacher's work pressure**

It is unable to play educational role in philosophy and beliefs. From the conversation, it can feel helpless that the respondents do not like regularization exam guide teaching education, but unable to do anything. Teaching is not rooted on the need of students but parents and exam-the practical result, in turn, to disposal teachers different from teachers themselves, the teachers lost subjectivity finally.

It is difficult to establish friendly relations in colleagues. The respondent has obvious feelings about the alienation on the relationship of teachers and colleagues. What a surprised for interpersonal with school colleagues that it takes more effort and time to get along with than with parents and students. There are all high intellectual colleagues, but no high degree to tolerance and acceptance in the school. Teachers need to go through the test of time to get tickets for the relationship.

### **4.2 Secondly, labor alienation derogating teacher efficacy beliefs**

Teachers can not get the positive teaching efficacy beliefs from colleagues. In spite of the comprehension on profession is not enough to overcome all the teaching, such as leading students to participate in the test, the contest, and others. The respondent can get a sense of achievement by learning constantly and tiding over the difficulties to decrease the pressure. But interpersonal relationship among colleagues is hard to get good results by learning. The respondents had intentions to keep good relationship by making snacks to colleagues and the results was still not to be acceptance and affirmation by colleagues, even though they had tasted the snacks. Thus, it makes the respondent epiphany the philosophy in colleagues "Friendship is like blank water", and give up to pursuit the good relationship among colleagues.

Understanding that could not chase on the pace of computer technology in education under capitalism. On the computer technology into teaching, the respondent felt difficulty to learn it, and believed that the teaching of computer science and technology can not fully replace the traditional blackboard taught teaching. Teaching relied on computer technology, will enable the teacher to loss the teaching ability. But under the guidance of capitalism, it is the trend for computer technology teaching which teachers have to learn, the respondent had ideas of new teachers alternative who are good at computers and retirement.

### **4.3 Thirdly, labor alienation limiting teacher's powers**

Expression in school environment is limited. From a spectator point of view of the respondent, colleagues who serve as administrative role were very painful, they were restricted by supervisors, and do not have the independent authority to accept or to reject. In addition, during the interview, the respondents blurted out the words if were a principal and would go to do something beneficial for teachers. From this part, it

could be supposed that the respondent wants to have self rights, and play the influence role in school environment.

It is difficult for new teachers to reject the administrative work and lead the poor classes. The respondents did not take over the administrative work, and thus she led the worst classes as mentors. There is room for experienced teachers to flexibility in choosing works. But the new teachers have no choice, obeying the arrangement of school tasks, especially administrative work until the next batch of new teachers.

The above, the researcher believe that the respondent is a good teacher in students with strong teacher efficacy beliefs enough to resistance the stress of teaching. However, “labor alienation” it will certainly affect the education ecology today, especially the alienation of relationship between teachers and colleagues. It causes teachers to withstand the work pressure and difficult to resolve teachers’ beliefs, as well as guided education under capitalism. Thus, the autonomy of teachers and powers are limited. That would be the core that the respondents would like to retire-out of alienation, to achieve the labor embodied to come to autonomy and creativity-the rest of time chasing her dreams.

In addition, compared to those who service in the city school, the respondent did not have too many complex issues or need to spend a long time to solve problems on parents and students. And due to the accumulated experience of parents and students in the country schools for a long time, the respondent did not lead to work pressure easily and reduce the confidence in teacher effectiveness in parents and students.

## 5. CONCLUSION

Although the identity and the nature of works about teachers are different from the general labors, but the work alienation is the same in modern capitalist society. Such labor alienation prompts estrangement between teachers and parents, teachers and students, teachers and colleagues, etc, and makes teachers loss of autonomy which validated labor alienation in Marx theory of work alienation-the output, not only the product but also produce a variety of additional survival issues to engender alienation self process, and extensively humans to humans(Jiang, 2012). In particular, it can be found that there are much more work pressure and tear teacher efficacy beliefs on interpersonal alienation relations than working with affairs and achievements.

Marx thank that returning to communism is the liberation to labor alienation (Jiang, 2012). However, the researcher found that when returning to one inner voice, autonomy would be benevolent, show the creativity talent, and achieve self. The respondent decided out of the school environment alienation, going to try a different path of career to expand the vision, and practice the autonomy and creativity-the best time of the different tastes after retirement. Retirement does not mean the end of the working career, but plan a new stage.

Therefore, if teachers can own full play to the labor embodied without capitalism immersion, teachers can be released from labor alienation and got the autonomy and creativity and good for students. Apparently, the school system is also affected by the control of the manipulation of capitalism and makes teachers unable to stretch, unable to endued the creativity and the autonomy of teachers.

The above, teacher labor alienation leads teachers have restricted powers, the loss of autonomy and creativity and alienated colleague and affect the working pressure, reduce teacher effectiveness, and cause unable to reach a healthy communication and

create a friendly campus. Therefore, the policy of education has not only to go beyond capitalism, but also to empower teachers in autonomy and the right to speak and listened.

The subject of the study is a high vocational teacher who worked in the countryside school for a long time. It is recommended to explore the factors of quitting or retiring between different academic teachers and the difference of labor alienation between urban and rural areas in further study as a reference.

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**The relationship between humor style of counselor and burnout  
: The mediating effects of interpersonal variables**

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**ABSTRACT**

The purpose of this study was to examine the effects of humor, social support, working alliance with clients and working alliance with supervisor on counselor's burnout and to determine the mediating effect of social support, working alliance with clients, and working alliance with supervisor on the relation between humor and burnout. Data were collected from 203 counselors working at public and private counseling centers and used through correlation analysis and structural equation modeling. The results were as follows. Firstly, burnout showed a positive correlation with non conforming humor but no significance with conforming humors. Moreover, burnout showed a negative correlation with social support, working alliance with clients and working alliance with supervisor. Secondly, conforming humors had a significant positive effect on social support, working alliance with clients and working alliance with supervisor, and non-conforming humors had a significant negative effect on them. Finally, social support and working alliance with clients had a significant negative effect on burnout. These results suggest that the positive or negative tendency of humors have different effects on interpersonal relations, and negative interpersonal relations increase the risk of burnout while positive interpersonal relations lower the risk.

**Keywords:** humor style, social support, working alliance, supervision working alliance, burnout



## EFFECTIVENESS OF THE SATIR MODEL INDIVIDUAL COUNSELING ON ANXIETY OF THE FIRST YEAR NURSING STUDENTS

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### ABSTRACT

**Objective:** To study the effectiveness of the Satir Model individual counseling on anxiety of the first year nursing students.

**Methods:** Subjects consisted of 16 students from Boromarajonani College of Nursing Chainat. Subjects with moderate scores of the STAI Form Y were simple randomized into an experimental and a control group, each consisted of 8 members. Subjects in the experimental group participated in the individual counseling based on the Satir Model for 8 sessions and each session took about 1-2 hours for 8 weeks whereas the control attended only a routine learning program. Data were collected before and after the experiment.

The research materials were composed of 2 categories: (1) Materials used for collecting data; the STAI Form Y, and (2) the material used during the experimental process: a Satir Model Individual Counseling protocol. Statistics used for analyzing data in this study was *t*-test.

**Conclusion:** Were as followed:

1. After the treatment, the experimental group had significantly decreased of the anxiety scores at  $p < .01$  level.
2. There were significant differences of the posttest scores between the experimental group and the control group on the anxiety scores at  $p < .01$  level.

The results showed that the Satir Model individual counseling can reduce the anxiety of the first year nursing students.

Keywords: Satir Model, anxiety, individual counseling

### 1. INTRODUCTION

Boromarajonani College of Nursing, Chainat Province, is academic institute which aims to produce nurse under the Bachelor of Nursing Science of Chainat, Praborommarajchanok Institute for Health Workforce Development, Ministry of Public Health, and to produce health personnel to serve health needs of community. Course outlines is particularly focused on relationship-based education program between nurse or teacher, client and student. This program enabled students to learn, understand and realize nursing process which is a scientific and humanistic method to fulfill the philosophy of nursing; spirit of service and dedication to a caring.

Students in Boromarajonani College of Nursing, Chinat, come from different provinces and are living together in college dormitory which often have strict rules. Teachers were responsible for taking care of students and the enforcement of all college rules and regulations. The nursing program provides theoretical and practical approach to prepare nurses based on nursing knowledge. The theoretical program offers students a basic knowledge of nursing. The rigorous practical program prepares individuals wishing to enter the practice of nursing. A practical experience will help a nursing student determine appropriate behaviors in a professional nursing setting. Students will have an opportunity to learn and practice nursing services with the different patient/client groups. Consequently, some students may have a generalized anxiety and depression regarding to social and academic adjustment ability, student dorm life, nurse-client relationship, which can impact their ability to perform academically.

Counseling service is both an art and a science which offer a range of services. The aims of the counseling services are to assist students in better understanding and utilization of their individual potential, to facilitate the personal, academic, and social of students, to help the students enhance their decision making abilities and to equip the students with skills to meet up with the variety of challenges in life. In the context of dynamic interpersonal relationships, Carter V. Good has said that "Guidance is a process of dynamic interpersonal relationships designed to influence the attitudes and subsequent behavior of person". Therefore counseling is helpful process in building self-confidence and the capacity to adjust, by reducing anxiety and depression among nursing students.

At Boromarajonani College of Nursing, Chainat Province, researcher works as a teacher and is responsible for teaching of Nursing Care of Persons with Mental Health Problems. In addition, researcher works as a counselor which is responsible for helping students to understand themselves and the world around them and to adjust themselves more efficiently and appropriately to other fellow beings. Satir model is one type of treatment model for problems. Satir model aims to effect lasting change in individuals by enhancing awareness and understanding of communication patterns, expanding self-discovery and self-responsibility, enhancing congruence and tapping internal resources for external change. This model enhances students to understand themselves and the world around them, and to adjust themselves more efficiently and appropriately to other fellow beings (Baldwin, 2000, pp.23-24; Palmer, & McMahon, 1997, 99-101)

Consequently, Satir model has been used in this research to study effectiveness of individual counseling services based on Satir Model for anxiety reduction of nursing student. Results will be able to apply to another focus group.

## **2. OBJECTIVE**

This research has the aim of study the effectiveness of individual counseling services based on Satir Model for anxiety reduction of nursing student.

## **3. RESEARCH HYPOTHESIS**

1. Anxiety levels in the target group were less than those before attending individual counseling services based on Satir Model.

2. Anxiety levels in the target group were less than those in the control group after attending individual counseling services based on Satir Model.

#### **4. SCOPE OF THE STUDY**

The research was aimed to study the effectiveness of individual counseling services based on Satir Model for anxiety reduction of nursing student. Research population was first-year students of Boromarajonani College of Nursing, Chainat Province, entering college during July 2011-January 2012.

Target group: First year students characterized as follow:

1. High level of anxiety
2. Welcome for cooperation

A target group of 16 first year students of Boromarajonani College of Nursing, Chainat was chosen as a representative population sample for the study. It was divided into two groups; study group and control group. Each of them is comprised of 8 students according to the level of anxiety. Mid-level score was 40 upward.

#### **5. METHODOLOGY**

1. Research methodology applied for this research was experimental using one group pretest-posttest design.
2. Research materials are as follow:
  - 1) A 10-step Satir model which was certified by three specialists. Pilot study was conducted to reveal deficiencies in the design of a proposed procedure and these can then be addressed before time and resources are expended on large scale studies. It was conducted about 6 times of 1-hour counseling service as below.
    - Stage 1: Relationship and self esteem
    - Stage 2: Diagnosing problems and impacts
    - Stage 3: Setting goals
    - Stage 4: Integration and practice
    - Stage 5: Reviewing
    - Stage 6: Terminate program
  - 2) STAI Form Y which is translated in Thai by Malati Rungruangsiripan (1999). Reliability test was conducted using Cronbach's Alpha Coefficient at the significance level of 0.90. It is a brief self-rating scale for the assessment comprising of 20-item scales measuring state and trait anxiety. Level of anxiety is divided into 4 levels.
    - 20-39 score means mild level of anxiety
    - 40-49 score means moderate level of anxiety
    - 60-80 score means severe level of anxiety

3. Research methodology can be divided into 4 steps as follow:

##### 3.1 Research preparation

- 3.1.1 Preparation and submission of the research proposal to research committee of Boromarajonani College of Nursing, Chainat Province.
- 3.1.2 Investigation of anxiety of first-year students was carried out by using STAI Form Y. Anxiety level was sorted according to anxiety score.

##### 3.2 Research implementation

- 3.2.1 Study group attended individual counseling service based on Satir Model about 6 times of 1-hour counseling service on a daily basis. Control group did not attend the individual counseling service.

3.3 Research evaluation

Level of anxiety was determined and statistical analyzed.

## 6. DATA ANALYSIS

Data analysis was statistically accomplished by using pair simple t-test.

## 7. RESULTS

### Part 1: Comparison of level of anxiety within group

Table 1 Comparison of level of anxiety before and after attending the program

Group	N	Before attending program		After attending program		Difference		t
		X	SD	X	SD	X	SD	
Study group	8	45.75	5.28	20.62	0.74	25.13	5.3	13.4*
Control group	8	44.13	4.45	45.13	4.16	1	2.27	1.25

\* p<0.01

Table 1 indicated that the program significantly reduces problems of anxiety in study group with a statistically significant mean score level of 0.01, while the mean score for the control group indicated no significant changes in anxiety.

### Part 2: Comparison of level of anxiety among target group

Table 2 Comparison of level of anxiety before and after attending the program

Group	N	Before attending program		t	After attending program		t
		X	SD		X	SD	
Study group	8	45.75	5.28	0.67	20.62	0.74	16.42*
Control group	8	44.13	4.45		45.13	4.16	

\* p<0.01

Table 2 indicated that mean score amongtarget group before attending the program showed no significant changes in anxiety. However, after attending the program, level of anxiety has a statistically significant mean score level of 0.01.

## 8. CONCLUSION

The Satir Model Individual counseling is an effective treatment for anxiety management. This program enabled first-year students in better understanding and utilization of their individual potential, to facilitate the personal, academic, and social of students, to help the students enhance their decision making abilities and to equip the students with skills to meet up with the variety of challenges in life.

### Recommendations for application of this program

1. Apply this program with control group to reduce anxiety.

2. Apply this program to other clients group such as patient with cancer and hypertension for reduce of anxiety.
3. This program can be further applied to group or family counseling.
4. Training program regarding Satir Model counseling should be more provided to other health personnel.

#### **Recommendations for further research**

1. Level of anxiety should be determined two more months after the program to study long-term effect.
2. Research on comparison of Satir Model with other systems should be carried out to investigate the differences.

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# **Psychology III**

**10:00-12:00, December 16, 2012(Room 3)**

**322: Addiction to BBM and WhatsApp is Nothing to “LOL” about**

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*Kuwait University*

## Addiction to BBM and WhatsApp is nothing to “LOL” about

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### ABSTRACT

In the past 20 years, researchers across a variety of disciplines have debated how, for example, computer-mediated communication (CMC) influences the quality of interpersonal relationships (Walther and Parks 2002). Some evidence suggests that these forms of communication may be beneficial. For one thing, Ellison, Steinfield, and Lampe (2007) found that Facebook communications do not necessarily keep people apart from their world, but may result in supporting relationships and keeping people in contact. In addition, other studies have shown that Facebook connects people to local and long-distance social ties (Hargittai 2007; Quan-Haase 2007), as do other social networking sites (Baym and Ledbetter 2009). However, some researchers believe that the positive relational outcomes for these new communication tools may not be so for every user (Wilson, Fornasier, and White 2010). It has been argued that the adoption of CMC technologies raises issues about deleterious effects on the quality of interpersonal relationships (Kraut et al. 1998; Nie, Hillygus, and Erbring 2002) and managing concrete social relations (Sheldon, Abad, and Hinsch 2011). It has also been argued that individuals who are suffering in the real social world will probably not solve his or her problem by retreating constantly to social media (Sheldon et al. 2011; Kim, LaRose, and Peng 2009). Supporting this idea, Sheldon and Hinsch (2010) imply that “frequent users of social media may be hooked on a source of transient positive affect gained through this ersatz sociality, at an unrecognized cost to their lives as a whole” (p.11).

In this research, the researcher argues that BBM and WhatsApp services, just like other forms of CMC, may have made noticeable improvements in consumer lives, but in the same time caused serious social and personal problems including addiction to these services. Also, the researcher believes that individual attitudes toward these services are influenced by the introversion and extraversion continuum. That is, increasing levels of extraversion will lead to an increase in individual attitudes toward BBM and WhatsApp (Hypothesis 1). In addition, this relationship may be qualified by social anxiety. That is, the differences between extraverts and introverts in their attitudes toward BBM and WhatsApp services are believed to be more pronounced under increasing levels of social anxiety (Hypothesis 2). Furthermore, it is believed that addiction to BBM and WhatsApp plays a mediating role in the examined moderating effect (Hypothesis 3).

To test for the research hypotheses, an online survey was developed using Qualtrics. The researcher recruited 552 participants by asking business students enrolled in undergraduate courses at a large university in Kuwait to send a message with a survey link to all their BBM and/or WhatsApp contacts to participate in the survey. Of the participants, one hundred and eighty five were male and 367 were female. Mean age of the participants was 24.18 (SD = 7.54), ranging from 12 to 59 years. The majority of participants were Kuwaitis (96.9%). Two hundred and thirty seven participants

were using BBM program and 315 were using WhatsApp program as their mobile IM. All hypotheses were addressed via regression analysis using SPSS. To test for hypothesis 1, the researcher regressed consumer attitudes toward BBM and WhatsApp services on the extraversion measure and found the main effect to be significant ( $B = 0.11, p < .05$ ); Hypothesis 1 is supported. Another regression model was used, for hypothesis 2, to test for the moderation effect of extraversion and social anxiety on consumer attitudes toward BBM and WhatsApp services and found the moderation effect to be significant ( $B = 0.19, p < .01$ ); Hypothesis 2 is supported. T-tests were also used to further test for the differences between extraverts and introverts in their attitudes toward BBM and WhatsApp services under high social anxiety and low social anxiety. A median split was used to identify participants who are extraverts or introverts and high socially anxious (Shy) or low socially anxious (fearless). For high socially anxious participants, the difference between extraverts and introverts was significant ( $M_{Extraverts} = 3.84, M_{Introverts} = 3.38, t(261) = 3.99, p < .001$ ). However, for low socially anxious participants, the difference was found to be non-significant ( $M_{Extraverts} = 3.24, M_{Introverts} = 3.18, t(287) = .55, p = .58$ ).

Finally, Baron and Kenny's (1986) method for mediation checking was utilized to test for the mediation effect of addiction to BBM and WhatsApp services between the moderation relationship of extraversion and social anxiety and consumer attitudes toward BBM and WhatsApp (hypothesis 3). This method requires checking for three regressions. The interaction between extraversion and social anxiety was significant when consumer attitudes toward BBM and WhatsApp services was regressed on the factors,  $B = 0.19, p < .01$ . The same interaction was significant when the addiction to BBM and WhatsApp measure was regressed on the factors,  $B = 0.16, p < .01$ . Also, when the addiction to BBM and WhatsApp measure was entered as a covariate in the first regression equation, the interaction was non-significant,  $B = 0.104, p = .13$ , and the addiction main effect was significant,  $B = 0.51, p < .001$ ; Hypothesis 3 is supported.

In general, the current research builds on the existing CMC literature by examining BBM and WhatsApp user personalities on their attitudes toward BBM and WhatsApp. The data demonstrate that an increase in extraversion levels for BBM and WhatsApp users will result in an increase in their attitudes toward BBM and WhatsApp. This relationship is found to be qualified by different levels of social anxiety. That is, the difference between extraverts and introverts in their attitudes toward BBM and WhatsApp was found to be more pronounced among high socially anxious individuals. Furthermore, the data provided evidence that the examined moderation is mediated by individual addiction to BBM and WhatsApp.

To conclude, it can be said that BBM and WhatsApp services can be a great help to individuals. It could also bring people closer no matter how great their distance is from one another. However, when using BBM or WhatsApp services, one should always observe self-control in order to avoid addiction to these services that could ultimately result in degradation of personal communication skills.



# Psychology IV

14:30-16:15, December 16, 2012(Room 3)

## 351: Can You Smell Colour?

*Hannah Kim* *Yonsei University*  
*Kwanghee Han* *Yonsei University*

## 375: The Mediating Effect of Perspective-Taking on the Relationship between Response Style and Forgiveness

*Shinhwa Suh* *Korea University*  
*Yoonyoung Kim* *Korea University*  
*SeungHyuk Choi* *Korea University*  
*Sangyeon Yoon* *Korea University*  
*Taekyun Hur* *Korea University*

## 377: The Impacts of Likability of Anchor Provider on Anchoring Effects

*Shinhwa Suh* *Korea University*  
*Yoonyoung Kim* *Korea University*  
*SeungHyuk Choi* *Korea University*  
*Sangyeon Yoon* *Korea University*  
*Taekyun Hur* *Korea University*

## 385: Basic Values Survey: Results of a Confirmatory Factor Analysis with Portuguese Youths Living in Foster Care Institutions

*Cátia Marques* *University of Minho*  
*Ana Daniela Silva* *University of Minho*  
*Maria Céu Taveira* *University of Minho*  
*Ana Isabel Mota* *University of Minho*  
*Valdiney Gouveia* *University of Minho*

## 585: The Implicit Methods for the Study of Tolerance

*Maria Bambulyaka* *Daugavpils University*

**117: Organizational Culture and Its Effects on Job Satisfaction and Job  
Commitment of University Teachers**

*Shazia Hasan*

*COMSATS Institute of Information  
Technology Lahore*

*Huma Ali*

*COMSATS Institute of Information  
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## Can you smell colour?

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### ABSTRACT

There has been a continuous effort to establish crossmodal relationships among multiple senses. A commonly used term to describe the phenomenon is synaesthesia. Synaesthesia is a condition that results from neural mixing of sensory inputs. It has been found that general population also demonstrates weak synaesthesia, which refers to mild cross sensory linkages. In weak synaesthesia, although people do not experience neural mixing of sensory information, they voluntarily mix them, establishing a link between different sensory inputs.

Among many different kinds of crossmodal linkages between different senses, this research aims to investigate weak olfaction-vision synaesthesia. Unlike other widely accepted crossmodal relationships such as sound and colour, a link between olfaction and vision, more specifically colour, is still debated. In order to confirm and extend the previous findings that support olfaction-vision association, we sought to replicate them by using fragrances. Previous researches demonstrated that olfaction-vision association is mediated by semantic knowledge. For example, upon smelling sour lemon we would probably think of the colour yellow. This happens because once we identify that it is lemon, we imagine a typical lemon, which is yellow and associate the smell of lemon with the colour of yellow.

By using fragrance which is a mixture of different odorants, we sought test the claim that olfaction-vision association could occur in absence of their semantic relationship. Unless participants know the specific fragrance used in the experiment, it was expected that they would not be able to identify each odorant in the fragrance and imagine a colour based on the identification. Thus, dependence on the semantic knowledge to retrieve colour information would be minimised. In fact, none of the participants correctly guessed the fragrances. This rules out the possibility that participants selected colours based on their knowledge of odour components or even the colour of packaging.

Four fragrances were evaluated by 30 participants. The experiment involved two stages of questionnaire, first distributing five points among eleven colours in any way they felt appropriate and then evaluating familiarity, pleasantness and intensity on a seven-point Likert scale. Equal amount of fragrance was delivered to the participants by spraying it on testing papers. They were given enough break time between sessions to recover from olfactory fatigue.

Results replicate previous findings; certain colours are particularly chosen for a

specific fragrance. Use of fragrance in our experiment also hints a possibility that the connection between scents and colours may not utilise semantic knowledge. The result suggests that by using a matching fragrance-colour combination in designing fragrance packages or marketing, one can expect to maximise effectiveness that is directly related to sales.

Keywords: cross-modal association, colour, odour, synaesthesia

## **The mediating effect of perspective-taking on the relationship between response style and forgiveness**

**Shinhwa Suh, Yoonyoung Kim, Seung-Hyuk Choi, Sangyeon Yoon, Taekyun Hur**

**Department of Psychology, Korea University**

### **ABSTRACT**

The present study aimed to investigate the role of perspective taking in the relationship between depression-response styles and forgiveness. Given the previous finding that rumination about transgressor tended to have a negative effect on forgiveness, a ruminative response style of victims could also influence forgiveness. Therefore, this study examined the relationships between transgression victims' individual factor - such as ruminative, reflective, and distractive response style - and the situation specific forgiveness. Furthermore, we tested the hypothesis that perspective taking could mediate the relationship between the response style and forgiveness.

After reading two scenarios of transgression, 269 undergraduate students asked to generate either free thoughts (the control condition) or thoughts from their point of view and transgressor's point of view (the induced thought condition) and then ask to complete the forgiveness scale. The results showed that in the control condition, the ruminative response style was negatively correlated with forgiveness and perspective taking. In contrast, the reflective response style was positively correlated with perspective taking. In the induced thought condition, the ruminative response style was negatively correlated with forgiveness. In contrast, the reflective response style showed positive relationships with perspective forgiveness and perspective taking. Furthermore, in the induced thought condition, perspective taking mediated completely the relationships between the ruminative response style and forgiveness and the between reflective response style and forgiveness.

This study has identified the dispositional factor - the depression response style - that could enhance or inhibit interpersonal forgiveness and the mediating cognitive mechanism -perspective taking - interacting with the dispositional factor. The findings were further discussed in terms of their applications in various social contexts, such as education, legal correction, etc.

## The Impacts of Likability of Anchor provider on Anchoring Effects

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### ABSTRACT

The present study examined the impacts of the anchor provider's likability on anchoring effects. Anchoring effects refer to the phenomenon that judgments under uncertainty are likely to be heavily influenced by numerical information given in advance. Previous psychological explanations for anchoring effects were relatively cognitive-oriented and have mostly ignored the interpersonal and social factors. Recently, some interpersonal factors such as the effects of the source credibility (how credible the person providing the anchoring information is) were examined and proven to influence anchoring effects. Beyond the informative value of credibility, the present study examined a pure interpersonal factor, the anchor provider's likability. It has been found in persuasion literature that the likability of communicator makes people rely on heuristic (vs. systematic) cognitive processing. In addition, positive mood that is a natural consequence of likable social objects makes people more likely to rely on heuristic (vs. systematic) cognitive processing. Given the findings together, it was hypothesized that more likable anchor provider yields larger anchoring effects. Furthermore, people were expected to make judgment faster when anchors were given by likable sources. 81 college students participated in experiment sessions in which they met another participant (confederate in reality) who acted in either likable or dislikable ways. They overheard the confederate's judgments and then made their own judgments. As predicted, the information given by a more likable provider caused larger anchoring effects than that of less likable provider did. The reaction time was also significantly different between the likable and unlikable conditions. The results suggested that under uncertainty, people would consider not only the given information but also the information provider automatically. Of more theoretical importance, the roles of interpersonal factors and explanations for anchoring effects were discussed.

Keywords: anchoring effects, anchor provider's likability, mood, uncertainty, interpersonal factors

## **Basic Values Survey: Results of a confirmatory factor analysis with Portuguese Youths living in foster care institutions**

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### **ABSTRACT**

This study aimed to analyse the adequacy of the functional theory of human values with youths living in foster care in Portugal. We test two principal hypotheses: a content hypothesis, predicting a values' six-dimensional model (excitement, promotion, existence, suprapersonal, interactive, normative), and a structure hypothesis, predicting to represent values into two space dimensions (type of orientation: personal, central, and social; and type of motivator: materialist and idealist). Participants were 110 youths (59 boys and 51 girls) with ages ranging from 12 to 25 years old ( $m = 16.5$ ,  $sd = 2.17$ ), which answered the Basic Values Survey (BVS) and demographic questions. Results of confirmatory factor analyses corroborated the six-factor solution (content hypothesis), which showed acceptable fit to data. This solution was better than alternative ones (one, two, three, and five-factor solutions). Moreover, the confirmatory MDS (Proxscal algorithm) supported the spatial representation of values into two theorized dimensions (structure hypothesis). In conclusion, the current theory seems an adequate tool to assess basic values in this specific group. The BVS can be used in future research or intervention with this at-risk population of Portuguese youths living in foster care institutions.

Keywords: Values, Functional Theory, Foster Care, Youths.

### **1. INTRODUCTION**

The increase of the disruptive and addictive behaviors among youths has been the main focus of numerous theoretical perspectives. During the last decades, some authors have been trying to understand and explain antisocial behaviors of youths living in foster care using the human values (Formiga & Gouveia, 2005). One of the most integrative models about the theory of human values is the Functional Theory of Human Values, developed by Gouveia (1988) and validated in various countries (e.g., Brazil, Spain; Medeiros, 2011).

The desire of knowing the inside and structure of human values emerged decades ago and has become a main topic of focus in social sciences in general, psychology research in particular, with the aim to understand and explain it (e.g., Gouveia 1998; Milfont, 2005; Pepper 1954). This study aims to test the theoretical model of the human values (Gouveia, 1998), with a sample of youths living in foster care in Portugal. In the following lines it will be presented the Gouveia's Functional Theory of Human Values and the values of young people living in foster care, justifying the relevance of this topic with this specific population.

### 1.1 Functional Theory of Human Values – Functions and subfunctions of values

According to Gouveia's functional theory, human values are personal categories of social orientation, different in its magnitude and nature, understood as desirable and based on human needs and the pre-conditions to satisfy them (Gouveia, 2003). In his definition, Gouveia (2008) believe that values transcend specific situations and have different levels of importance, guide human behaviors and are cognitive representations of human needs.

For this theory (Gouveia et. al., 2003, 2008, 2009, 2010), values are organized in two main functional dimensions: type of orientation (personal, central and social) and type of motivator (materialistic and idealistic), which crossing origins six subfunctions, each one represented by three specific values that explains it structure: type of orientation, characterized by personal values (excitement and promotion), central values (existence and suprapersonal) and social values (interactive and normative). In its turn, type of motivator is defined by materialistic values (existence, promotion and normative) and humanitarian values (suprapersonal, excitement and interactive) (see Figure 1).

		<i>Values as guides of human actions (circle of goals)</i>		
		<i>Personal goals</i> (the individual by itself)	<i>Central goals</i> (the general purpose of life)	<i>Social goals</i> (the individual in the community)
<i>Values as expressions of needs (level of needs)</i>	<i>Basic needs</i> (life as source of threats)	<b>Promotion Values</b> Power Prestige Success	<b>Existence Values</b> Health Stability Survival	<b>Normative Values</b> Obedience Religiosity Tradition
	<i>Thriving needs</i> (life as source of opportunities)	<b>Excitement Values</b> Emotion Pleasure Sexuality	<b>Suprapersonal Values</b> Beauty Knowledge Maturity	<b>Interactive Values</b> Affection Belonging Support

Fig.1: Dimensions and sub-functions of basic values

### 1.2 Foster care adolescent's values

With the aim to enlarge the understanding of human values, it becomes necessary to test Functional Theory of Human Values (Gouveia, 1998), in a larger and diverse population. Thus, this study aims to validate the theory developed by Gouveia, with a sample of youths living in foster care institutions. In fact, youth' delinquency is one of the main reason for adolescents enter in foster care institutions in Portugal (Nardi & Dell'Aglio, 2010) and, for that reason, it becomes one of the social problems that have gained main focus in different feels of Psychology area, with the aim of explain and understands were and why it began. In this domain, studies relating human values have helped to predict delinquent behaviors. According to Santos (2008), the hugs cultural changing's that occurs in our societies in the last decades allows and promotes an individualistic spirit among young people, making them to take as a priority their interests and personal needs first, which can be one of the sources of disruptive behaviors. In this sense, adolescents with excitement values are more likely to not follow social standards. On the other side, the ones who have normative values, as well as interactive and suprapersonal values, are able to follow easier social



standards and show positive behaviors more often. This type of behaviors can be seen as a protection for future disruptive behaviors (Santos, 2008).

As youths feel less committed with adaptive conditions of behavior standards, lower will be their ability to internalize prevalent social values and standards in the social groups they belong. For this reason, is important to test the validity of the Functional Theory of Human Values developed by Gouveia (1998), with youths living in foster care institutions.

## **2. METHOD**

### **2.1 Participants**

Participate in this study 110 adolescents (51 girls and 59 boys) living in foster care institutions in Portugal, aged between 12 to 25 years ( $\mu=16.5, \pm 2.17$ ). Most participants were men (59 boys and 51 girls), attending primary (N = 48) 52.7%, secondary (N = 51), 46.4%, and higher education (N = 4) 3.6%.

### **2.2 Measure**

Participants fulfilled the Basic Values Survey (BVS; Gouveia et al., 2008). This self-report instrument as a total of 18 items, corresponding to 18 values, followed for a content of each. For example, the Tradition value is described as "follow the social norms of your country", and "respect the traditions of their society." Participants used a 7 point Likert scale, in which 1 represents "Not important at all" and 7 "Completely Important", to evaluate the importance of each value as a guiding principle in their life.

## **3. RESULTS**

The statistical analysis Amos program throughout SPSS (version 18). Confirmatory Factor Analyzes (AFCs) were conducted in order to test the content hypothesis, and compare the five alternative models. Were taken as indicators of fit: chi-square, that tests the probability that the data fit the model, and the larger this value was, the worst was the adjustment. The goodness-of-fit-index (GFI) and its weighted version (AGFI), which test how the variance and covariance matrices of the data can be explained by the theoretical model. Values can range from zero - null adjustment, and one - perfect fit. Assuming as acceptable values near or greater than 0.90. Comparative fit index (CFI), wherein its values range from zero to one, and admitted values equal to or greater than 0.90. The root-mean square error of Approximation (RMSEA), which takes into account the confidence interval of 90%. High values indicate a non adjusted. Recommended values are values near 0.05 0.08 and 0.10.

Aiming to compare alternative models, the CAIC (Consistent Akaike Information Criterion) and ECVI (Expected Cross Validation Index) were also considered. Statistically significant differences from CAIC model penalize the model with higher chi-square, and lower values of CAIC and ECVI indicate a best appropriated model.

In order to test the structure hypothesis, we also used SPSS (version 18) to calculate descriptive statistics (frequency, mean and standard deviation), internal consistency (homogeneity and Cronbach's alpha) of valorativ subfunctions evaluative and confirmatory multidimensional scaling (MDS algorithm Proxscal). Before creating a distance matrix, the values were transformed into Z scores. The coefficient of Phi Tucker was used as a measure of model fit, accepting values of 0.90 or higher.

Table 1 shows the results of descriptive analysis and reliability of subfunctions (internal consistency and homogeneity). The values of Cronbach's alpha and correlations indicate the subfunctions homogeneity.

Table 1: Descriptive statistics and homogeneity of subfunctions

Sub-functions	<i>m</i>	<i>Dp</i>	$\alpha$	R <sub>m.i</sub>
Excitement	14,67	3,39	0,87	0,60
Promotion	14,49	3,31	0,85	0,68
Existence	17,52	3,81	0,84	0,76
Suprapersonal	16,10	3,59	0,85	0,72
Interactive	15,36	3,49	0,85	0,70
Normative	14,19	3,70	0,87	0,62

*m* = mean, *sd* = standard deviation,  $\alpha$  = Cronbach's alpha, R<sub>m.i</sub> = index homogeneity.

The content hypothesis predicts that the 18 items (evaluative markers) saturate their corresponding theoretical subfunctions. To test this hypothesis, we conducted a Confirmatory Factor Analysis, using a matrix of variance and covariance between the 18 values and adopting the procedure of maximum likelihood Amos (SPSS, version 18).

With the aim of determining the relative adjustment of the theorized model (original model with six subfunctions), the three alternative models were compared, according to the number of factors: bifactorial (the values were distributed according the type of motivator: materialistic and idealist), trifactorial (the values were organized according the type of orientation: personal, social and central), and pentafactorial (values of Existence and suprapersonal subfunctions) (Gouveia & cols., 2011).

To compare the alternative models with the one assumed by the original theory (six factors), was considered the following adjustment indicators: chi-square, the goodness-of-fit-index (GFI) and its weighted version (AGFI) comparative fit index (CFI), the root-mean square error of Approximation (RMSEA), the CAIC (consistent Akaike Information Criterion) and ECVI (expected cross validation index).

The original model was contrasted with the other three alternative models. The results are shown in Table 2.

Table 2: Testing content hypothesis

Fit Index	Number of factors				
	Six	Five	Three	Two	One
$\chi^2$	264,2	282,8	301,7	307,4	307,9
G1	120	125	132	134	135
GFI	0,81	0,71	0,71	0,78	0,78
CFI	0,79	0,75	0,75	0,75	0,75
RMSEA	0,11	0,11	0,11	0,11	0,11
CAIC	554,91	523,99	523,99	518,34	513,14
ECVI	3,36	3,44	3,45	3,45	3,45

Factorial models: six-factors (original model), five-factors (suprapersonal and existence subfunctions composing an one-dimension: central values), three-factors (personal, central, and social values), two-factors (idealist and materialist values), and one-factor (all values loading on one-dimension); \**p* <.001.

As can be observed in Table 2, models with six and five factors shows best results. The value of chi-square, as well as the degrees of freedom, were decreasing depending on whether increased number of factors. The CAIC is increased with the increased number of factors, like ECVI decreased. Thus, the 18 items or specific

values BVS can be adequately represented by six factors, supporting the content hypothesis. In order to test the structure hypothesis, which predicts that core values are saturate between social and personal values, and materialistic values and humanitarian values would be organized in two regions in bi-dimensional space, we conducted a multidimensional scaling (MDS) confirmatory (algorithm proxscal) throughout SPSS (version 18). The results of this analysis are shown in Figure 2.

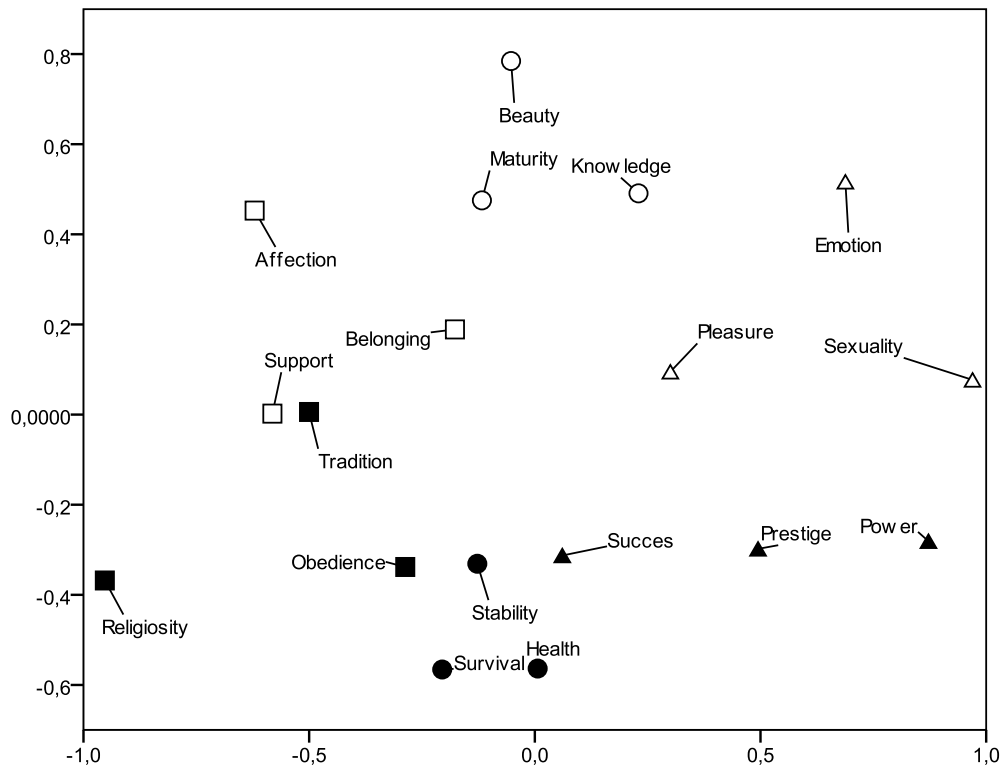


Fig.2: Spatial representation of values

As it can be seen in Figure 2, the six evaluative theorized subfunctions can be represented in a bi-dimensional space, showing a satisfactory adjustment (Tucker Phi = 0.94). Materialistic (filled figures) and idealistic values (unfilled) come in different regions of space. Moreover, the central values (circles) are among the social (squares) and individual values (triangles). These results suggest to support the structure hypothesis.

#### 4. DISCUSSION AND CONCLUSIONS

The main goal of this study was to assess the adequacy of Functional Theory of Human Values, developed by Valdiney Gouveia (Gouveia et. Al., 2008, 2009, 2010) with sample of adolescents living in foster care institutions in its content and structural hypothesis.

As mentioned above, according to the theory, functionalist values are arranged in two major functional dimensions: type of orientation and type of motivator, which intersection gives rise into six subfunctions, specifically: subfunctions with idealistic motivators are: interactive, suprapersonal and excitement; subfunctions with materialistic type are: normative, existence and excitement.

Subfunctions with social orientation are: interactive and normative; subfunctions

with central type are: suprapersonal and existence; and personal subfunctions type are: promotion and excitement.

Each of these subfunctions there are three associated values; (a) Excitement, with emotion, pleasure and sexuality values; (b) promotion, characterized by values of: success, power and prestige;(c) existence, containing values as: stability, health and survival; (d), suprapersonal subfunction has values such as: beauty, knowledge and maturity; (e) interactive with: affection, support and belonging values; and (f), normative subfunction, characterized by : obedience, tradition and religiosity values. The content hypothesis suggests that the specific values are organized into six subfunctions. According to the authors of the theory, this should be the most appropriated factor structure. The results show that models with more factors are more suitable than models with one, two or three factors.

The structure hypothesis indicates that the central values are located between personal and social values, and that it would meet on opposite sides of the bi-dimensional space, which was supported using multidimensional scaling (MDS) confirmatory (proxsca algorithm). However, some limitations should be taken into account. It becomes important to continue this study, enlarging the sample, in order to increase the certainty of the results obtained. Is also important to note that this was the first study using Basic Values Survey with youths living in foster center institutions, which allows to realize its suitability, allowing to continue developing studies of this nature with human values.

In conclusion, the results obtained in this study suggest to support the content and structure hypothesis of the Functional Theory of Human Values, having the model showed adequate gathering data that corroborate this theory.

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## The implicit methods for the study of tolerance

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### ABSTRACT

Tolerance is a tool for achieving a social cohesion, particularly, among individuals and groups with different values. The aim is to study the characteristics of the ethnic tolerance, the inhabitants of Latvia. The ethnic tolerance is taught as a set of conscious and unconscious orientations of the individual in social interaction and inter-ethnic communication. It uses the tools of empirical studies of the ethnic tolerance which allows to identify the explicitly and implicitly levels of the emotional component of Latvia's residents. Explicit measurements were made using the techniques of self-report which revealed the index of the ethnic tolerance and the ethnic identity of the participants. The implicit component was studied using methods based on the effect of the emotional priming. During the processing of the results, there were calculated indicators of the positive and negative implicit attitudes towards members of their own and other ethnicity as well as the explicit parameters of the ethnic tolerance and the ethnic identity of Latvia's residents. The implicit measurements of the ratio of neighboring ethnic groups against each other showed a mutual negative attitude whereas the explicit measurements indicate a neutral attitude. The data obtained contribute to a further study of the ethnic tolerance of Latvia's residents.

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Keywords: ethnic tolerance, implicit measure, priming, ethnic attitudes.

## 1. INTRODUCTION

The distinction between "us" and the "aliens"-one of the most ancient distinctions in the human history. A cautious attitude towards another, strange and unknown is the quality necessary for the human existence and the human society. The archaic nature of the division between "us" and "aliens" is still existing in our days, making the psychological basis of fear of changes in the usual course of events. The reasons for this are considered in many psychological theories and, virtually, all existing theories posit inevitability the fact of the out-group aggression [1]. Intolerance as a psychic phenomenon is clear, grounded by theoretical and empirical developments and is biologically, socially and a historically conditioned companion of the man's existence.

However, the community development, globalization processes and inappropriateness of the intolerant behavior in civilized relationship help to create categories that must be countered to the mechanisms of a hostile suspicion to the "aliens". This category in the today's world is tolerance.

## 2. OVERVIEW OF THE LITERATURE AND PROBLEM STATEMENT

In today's world to be tolerant is the norm and people are rarely willing to admit their intolerance. The study of the phenomenon of tolerance is complicated by the so-called declared tolerance. In most cases, the declared tolerance appears as a substitute for "I – the real", "I - the perfect" but it can be based on other mechanisms. The researchers identify the "passive tolerance" as well, characterized more as an actual indifference to the object of tolerance but declared in the «right" categories of the active tolerance.

In contrast to the declared or passive tolerance, the active tolerance is characterized by an active start, the presence of at least some interest to representatives of an alien culture, i.e., the active positive emotional component. At the same time, the negative emotional component does not necessarily indicate a lack of tolerance - as mentioned above, the negative emotional component can be balanced with the positive cognitive one.

At the base of tolerance, there is either a lack of grounds for a negative reaction to the object of tolerance or a conscious inhibition of negative impulses. Some researchers call the lack of grounds for a negative reaction as a natural tolerance [5]. In our view, this situation presents a challenge both for the researcher as the lack of negative reactions to the object of tolerance, in fact, indicates either an indifference or sympathy with the object rather than tolerance.

According to A.P. Grechko, indifference or lack of a pronounced emotional component is a form of "degeneration of tolerance" [6]. Indifference suggests that the object of indifference is insignificant to the subject of tolerance; therefore, the mechanism of tolerance in the situation of indifference is not claimed. Indifference extends around passivity while tolerance, moving from indifference to a conscious controversy, adjusts the subject of tolerance to an active and involved stance.

At the same time, the presence of a positive emotional component and the absence of adverse reactions may indicate sympathy of the subject to the object of tolerance and as a consequence of the manifestation of tolerance. However, tolerance is a distinct psychological phenomenon, not an analogue of not liking. Therefore, for the appearance of tolerance there is required a sufficient distance between him and others. Where the distance is minimal, tolerance is not needed, when the distance is too great - it is governed by certain external standards [6]. Thus, in the psychological studies of tolerance, there should be distinguished particular manifestations of this phenomenon.

In this study, we consider the natural tolerance as a search for an alternative identity, oriented to the similarity [4], in the context of the ethnic distance of the Latvians and the Russians, living in Latvia. The distance between these two cultures is repeatedly publicized in the writings of scholars [7], [8], [9]. At the same time, important in the understanding of the ethnic tolerance is the fact that the subjects of tolerance have some influence on the object of tolerance - that is, having a real opportunity to influence the object, the subjects of tolerance refrain from imposing their position [5].

Modern theories of tolerance in social psychology are diverse, so it is quite difficult to establish a certain set of characteristics of tolerance and to identify a model. The psychological literature discusses a number of concepts similar to those of

tolerance developed by the major psychological schools and approaches. Thus, in psychoanalysis, the analogue of tolerance is the system of defense of human mechanisms, in the cognitive approach, tolerance - a system of structuring in the mind of heterogeneous and contradictory social objects, in behaviorism - a system of knowledge and skills that combines the behavioral repertoire of a man, in the humanist approach, tolerance - a strategy to achieve self-actualization, etc. [4].

In keeping up with trends in cognitive areas, we consider the ethnic tolerance as a two-dimensional cognitive construct that includes explicitly and implicitly components.

In the explicit content, we identify three common levels – the cognitive, affective and behavioral components, leaving the "primacy» to the cognitive tolerance that can rationally and reasonably restrain emotions and feelings of failure. Understanding, awareness of differences and the ability to restrain negative reactions towards the object of tolerance are often seen by researchers as the main feature of the phenomenon of tolerance [19], [11], [12].

The implicit content of tolerance has its origin in unconscious mental processes. Following the authors of the meta-cognitive model of the implicit and explicit relationship constructs, we consider the ethnic tolerance as an ambivalent attitude [13].

During the development, the psyche forms systems of individual, select, conscious or unconscious, links of the individual with various factors of the objective reality and the system is filled with the estimates of these factors. Thus, a relation of the individual is formed a connection, which contains an assessment [5].

Conscious and intuitive relations are considered by us as drawing near to the explicit and implicit manifestation of tolerance / intolerance. The origin of an informed, explicit mental construct of tolerance in our understanding is based on the processes of making certain judgments about the object of tolerance. In the processes of forming an implicit psychic construct, a large role is played by the experience and information about the object of tolerance which is stored in the memory of the subject of tolerance, forming a network of associations, often unconscious for the subject of tolerance. This unconscious associative network forms the implicit attitude to the object of tolerance.

In this study, we attempt to explore two levels of tolerance – as conscious and unconscious by the subject. We believe that the perceivable level of tolerance is the result of understanding and structuring the consciousness of social objects that act as causes of changes in the social attitudes, cognitive scripts.

However, collisions with these socially significant objects contribute to the emergence of attributions, semantic units, states of cognitive dissonance, the effects of social perception, social mainstream stereotypes and prejudices which are often unconscious and automatic in their nature (S. Moscovici, E. Yakimova, J. Turner, F. Heider, L. Festinger, A. Bodalev, I. Kon et al). Therefore, it seems important to study the unconscious level indicators of the ethnic attitude which is the basis of the ethnic tolerance.

Studies of the implicit mental constructs show different, often contradictory results. At the moment, the explicit and implicit measurements are usually considered



as complementary and depending on the objectives of the study, allowing obtaining a more complete picture of the research [14].

We consider the implicit content of the ethnic attitude as a result of experience, accumulated in the development of the individual [15]. The study of the implicit level of the ethnic tolerance allows us to study aspects of the inter-ethnic relations, self-report methods that are not generally available. The experience in measuring implicit constructs shows that the discrepancy between the explicit and implicit measurements is related to the fact that both types of measurements are focused on different aspects of one phenomenon and each type of measurement has its own characteristics. Thus, the implicit attitudes are more stable and less susceptible to situational influences, in contrast to the explicit attitudes. Here, the implicit attitudes in nature are more linked with the emotional environment of the individual while the explicit attitudes draw on the cognitive one [16].

The understanding of tolerance in the two levels of its manifestation, allows us to consider this phenomenon in the context of its development and formation, given the current state. This allows for a more complete analysis and study of the ethnic tolerance in our study, the representatives of the two largest ethnic groups in Latvia.

We view this research as the first step in studying the implicit level of the ethnic tolerance of Latvia's residents. The emphasis was laid on the comparison of the modality of the implicit and explicit levels, in order to further develop the research methodology of the content of the ethnic tolerance of the inhabitants of Latvia.

The phenomenon of the ethnic tolerance is closely related to the ethnic identity of the individual. We use the theoretical -and methodological development of ethno-psychology and ethno-sociology based on the theory of the social identity proposed by H. Tajfel – J. Turner, the theory of a study of ethnic orientations developed by J. Berry and methodological developments developed by N.M. Lebedeva and G.U. Soldatova, according to which, the ethnic tolerance can be investigated through the study of the ethnic orientations [17], [18], [19], [20]. Therefore, we study indicators of the ethnic identity which will allow us to have a better idea about the structure of the ethnic attitude.

In order to better understand the differences in the explicit and implicit measurements, we also study the level of self-monitoring of the respondents in order to determine whether they are potentially willing to adapt to the situation. Individuals with a high self-monitoring are more flexible and adaptable to the current situation, individuals with a low self-monitoring are more principled, less flexible and tend to keep their beliefs regardless of the situation [21].

In this research, we consider the overall picture of the relation of the implicit and explicit components of the ethnic tolerance as part of the ethnic attitude. To accomplish the objectives of the research - the study of a two-level model of the ethnic tolerance - we have structured sequential blocks of problems: a study of the emotional component of the implicit content of the ethnic attitudes, the explicit study of the level of the ethnic tolerance, the measurement of the ethnic identity and level of self-monitoring of the respondents.

### 3. MATERIALS AND METHOD

#### 3.1. Sampling

The research was conducted in 2010 with the participation of the Latvian ethnicity who identify themselves with the Latvian culture media and representatives of the Russian ethnic group who consider themselves the bearers of the Russian culture. The sample included 144 respondents with the mean age of the research participants 25.06 (min.16 years, max. 60 years). The mode of sampling: 17 years. The method of forming: the use of real groups. The procedure for the study took about 35 minutes, including the implicit and explicit components of the study. The respondents performed the task of an implicit test and then completed a questionnaire and explicit methods. After the procedure, the respondents were informed about the true purpose of the research.

#### 3.2. Measurements

The implicit component was measured using special software to identify the implicit relationship. The diagnostic aim of the method is measuring the emotional component of the attitude by fixation of the reaction time of the respondent to the target stimuli depending on the test stimuli. The priming effect is an indicator of an automatic evaluation.

Before the implicit study, the participants took a training test to adapt to the regime of a rapid change of the stimuli and a maximum response to them.

To study the performance of the ethnic tolerance, a method was used called “the tolerance index” [20] and “The types of the ethnic identity” [2].

To study the level of self-monitoring, a test questionnaire was used “The scale of self-monitoring” developed by Snyder [21].

The data were studied using the programs MS Excell and a package for the statistical data processing SPSS'13. To study the data, there were used the following statistical methods: the descriptive statistics, Kolmogorov-Smirnov test, the criterion of Shapiro-Wilks, the comparison of asymmetry and excess with their standard errors, the three-factor ANOVA with repeated measures, the two-factor ANOVA with repeated measures, multiple comparisons proposed by the Mann-Whitney test, the Pearson's Chi-square test, the Spearman's correlation coefficient, the criterion of Fisher transformation.

### 4. ANALYSES AND RESULTS

Using the Mann-Whitney U test, statistically significant differences are noticed in the measurements of tolerance in the groups of the Russians and the Latvians. The data obtained by the descriptive statistics are illustrated in Figure 1. The level of tolerance (IT) of the respondents of the group “The Russians” is higher than the level of the respondents of the group “The Latvians”(U = 1299.5;  $p = 0.000 \leq 0.001$ ), the level of the ethnic tolerance (ET) of the respondents of the group “The Russians” is higher than the level of the respondents of the group "The Latvians" ( U = 1195.5;  $p = 0.000 \leq 0.001$ ), the tolerance level as personality traits (PT) of the respondents of the group "The Russian" is of a higher level than of the respondents from the group “The Latvians” (U = 1294.5;  $p = 0.000 \leq 0.001$ ).

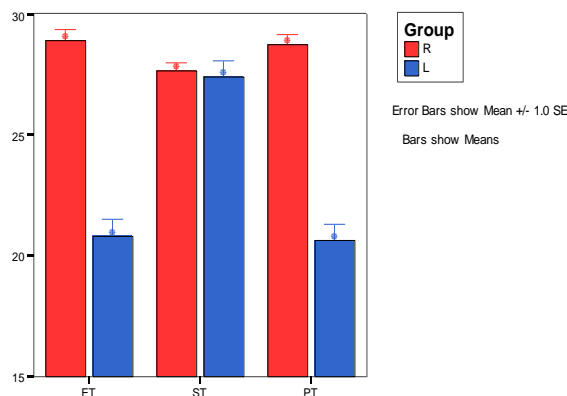


Fig. 1: The diagrams for the mean values of tolerance. ET –the ethnic tolerance, ST –the social tolerance, PT - tolerance as a personal trait

A study of the measurements results of the ethnic identity showed no statistically significant differences between the groups. There is only found one significant difference: the level of the ethno-fanaticism of the respondents from the group “The Latvians” is of a higher level than that of the respondents from the group "The Russians" ( $p = 0.014 \leq 0.05$ ).

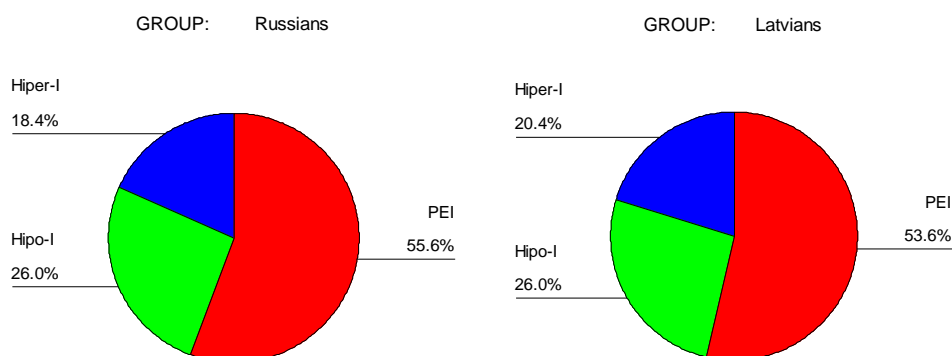


Fig. 2: The distribution of points according to the scales of transformation of the ethnic consciousness: PIE-a positive ethnic identity, Hypo-I - -hypo-identity, Hyper-I – hyper-identity

The distribution of levels of self-monitoring in both groups showed the representatives of the Latvian ethnos, the level of control over expressive reactions is higher than that of the Russians as shown in Figure 2. In particular, the percentage of the Latvian respondents with a high self-monitoring, by 14.84% is over the same option in the Russian group, the average level of self-monitoring is more pronounced in the Russian group and on 15% is higher than the number of the Latvian respondents with an average level of self-monitoring and the number of the respondents with a weak level self-monitoring in both groups did not differ (Fig. 3).

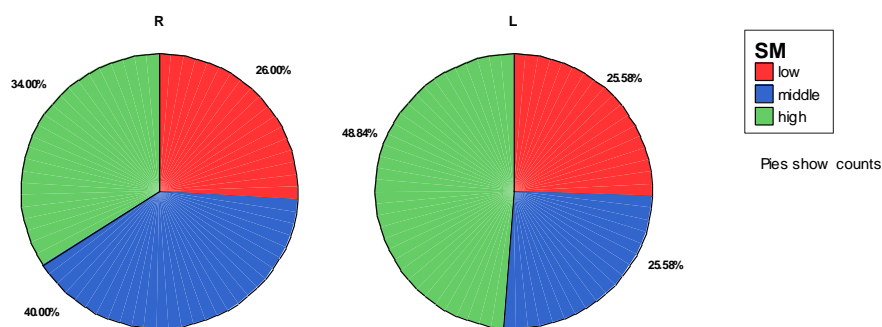


Fig. 3: Diagrams of the mean values for self-monitoring

In the correlation analysis, the correlation coefficients by Spearman were calculated. As a result, a statistically significant link in a group of the representatives of the Latvian ethnos against the Latvians - a negative monotonic relationship between the implicit attitudes and tolerance ( $rS = -0.325$ ;  $p = 0.034 \leq 0.05$ ;  $N = 43$  and  $rS = -0.320$ ;  $p = 0.036 \leq 0.05$ ;  $N = 43$ ), indicating a decrease in the level of tolerance to the deterioration of the implicit attitude.

In the group of the representatives of the Russian ethnos against the representatives of the Latvian ethnos, the following correlation dependencies are found: a positive monotonic relationship shifts of the reaction time (of the implicit relationship) with a positive ethnic identity ( $rS = 0.219$ ,  $p = 0.029 \leq 0.05$ ,  $N = 100$  and  $rS = 0.229$ ,  $p = 0.022 \leq 0.05$ ,  $N = 100$ ), that is, growth of the positive ethnic identity by the deterioration of the implicit attitude. Also, there is observed a negative monotonic relationship of the implicit relationship (R – an absolute shift of the reaction time,  $R_n$  – a normalized shift of the reaction time) with the ethnic indifference ( $rS = -0.199$ ,  $p = 0.047 \leq 0.05$ ,  $N = 100$ ) which means a consistent deterioration of the attitude of the representatives of the Russian ethnos in relation to the representatives of the Latvian ethnos and the reduction of the ethnic indifference. There is found a negative monotonic relationship of shifts of the reaction time (absolute and normalized) with the hyper-identity ( $rS = -0.201$ ,  $p = 0.045 \leq 0.05$ ,  $N = 100$  and  $rS = -0.200$ ,  $p = 0.046 \leq 0.05$ ,  $N = 100$ ), indicating a consistent increase of indicators of the shifts in the reaction time - deteriorating relationship between the Russians and the Latvians - and the decrease in hypo-identity.

The results of the use of the multi-functional statistical criterion “The angle transformation of Fisher” showed the following results. In the group of “The Russians” to “The Russians”, the rate of “The Russians” with a positive implicit attitude toward “The Russians” was significantly higher than that of “The Russians” with a negative attitude to “The Russians” ( $p \leq 0.05$ ). The rate of “The Russians” with a negative implicit attitude toward “The Latvians” is significantly higher than that of “The Russian” with a positive attitude to “The Latvians” ( $p \leq 0.01$ ).

In the group “The Latvians” to “The Latvians”, the statistical significance was not detected but the rate of “The Latvians” with a positive implicit attitude toward “The Latvians” is slightly higher than that of “The Latvians” with a negative attitude to

"The Latvians". The rate of "The Latvians" with a negative implicit attitude toward the "The Russians" is significantly higher than that of "The Latvians" with a positive attitude to the "The Russians" ( $p \leq 0.05$ ).

## 5. CONCLUSION

The results of the explicit and implicit measurements of the indicators related to the ethnic tolerance showed differences. The differences in the explicit and implicit measurements are natural since both types of measurement are studying different aspects of one phenomenon – the ethnic tolerance [22], [23], [24]. Based on the pre-conditions of the association model, the correlation of the implicit and explicit dimensions, attitudes, measured by the indirect methods, are understood as the knowledge of people, formed on the basis of socio-cultural sources and their origin is not the content of individual experience, but a part of the socialization process [25], [26]. If we consider the results of a study from the standpoint of this model, in the process of socialization among the members of both ethnic groups there could form a negative attitude toward the nearby representative of the ethnic group. Many studies point to the tension between the neighboring ethnic groups [7], [8], [9], [23]. However, measurements obtained by the methods of self-reports, indicate a stable situation as for the most part it reflects the norm of a tolerant attitude.

Most of the measurements of the implicit attitude did not reflect the modality of the implicit attitude, showing neutrality as well as the most explicit measurement methods. It also points to the need for further in-depth study of the phenomenon of the ethnic tolerance and other components of the ethnic attitude. For example, in terms of meta - cognitive model, the correlation of the implicit and explicit constructs assumes the existence of two attitudes in the memory- previously learned and the newfound attitude [13]. If the previously generated attitudes do not match the newfound attitudes, they will be labeled as "false" or "wrong." However, at the initial stage of forming an associative relationship with this label, it is sufficiently weak, at least, so the impact of the attitude on old decisions and behavior will depend on whether a carrier of the attitude has a conscious access to the attitude. Separately, it is worth mentioning the suggestion that the new and the outdated attitudes can be activated automatically and simultaneously, resulting in a neutral, unexpressed reaction. By this mechanism, there can be explained the neutral implicit attitudes revealed in our study.

The correlation of the implicit and explicit components, their interaction are of a particular interest as they allow a deeper understanding of the nature of the ethnic attitude. Increasingly important is to study not declared relations of the respondents in such ethnic complexities of the research as the study of ethnically complicated attitudes. Deployment mechanisms of the effect of the social desirability is also poorly understood in the framework of the knowledge. It is possible to consider enhancing of this mechanism within automatic reactions when the mind makes a decision on the social admissibility of the true attitude. The research of changes of the implicit attitude is also a theme for a further research and development.

As for the content of the explicit and implicit attitudes of Latvia's residents, in our opinion, fixed in the course of the experiment, negatively stained implicit attitudes of both groups in relation to each other require a separate discussion. Another, of course, worthy of attention result is identification of the ethno-nihilistic trends in the Russian ethnic group.

This study opens up wide opportunities for further study of the ethnic attitudes,

using the implicit measure. All the probabilities found in the course of the discussion, also need a closer look within the framework of other experiments and empirical studies.

## 6. ACKNOWLEDGEMENT

The researcher wish to acknowledge our scientific leader prof. Irina Plotka of the Daugavpils University for her interest in this research and unfailing help during the data gathering. Further, we express appreciation to Dr. Nina Blumenau of Transport and Telecommunication Institute which invariably helped in the analysis of statistical information. Due recognition is also given to Dr. Dmitry Igonin of the Baltic Psychology and Management University College for his advices and inspiration in this research.

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## Organizational culture and its Effects on job satisfaction and job commitment of university teachers

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**Objective:** This study is aimed at finding the effect of organizational culture on the job satisfaction and job commitment of university teachers.

**Introduction& hypothesis:** After detailed literature review it was hypothesized that organizational culture will affect the job satisfaction of employees. It was further hypothesized that culture of the organization will affect the job commitment of the employees.

**Methodology:** Sample was consisted of eighty seven university teachers. These teachers have two to five years of work experience.40% female and 60% male participated in this study. Stratified random sampling has been used for the collection of data. Two public sector universities, one federal government and three private universities were included for data collection. To measure organizational culture 39 item scale, for employees satisfaction eight item scale and for organizational commitment four item scale was used given by **Aydin, Ceylan(2009)**.

**Results:** Through SPSS data was analyzed statistically. Regression was applied and results indicate that first hypothesis is proved and there is significant affect of organizational culture on the level of job satisfaction of university teachers as the  $p < .005$ . Second hypothesis is also proved and results indicate that organizational culture significantly affects the level of organizational commitment of the teachers.

**Conclusion:** Results of this study shows that if we provide healthy and positive cultures to our teachers, they will be more satisfied and committed to their work. As teachers are the ones who have to build nations they can very positively contribute to imparting knowledge to the next generations.



# **Society I**

**10:00-12:00, December 15, 2012(Room 3)**

**141: Political Dialogue as a Kind of Dialogues Cultures in the Globalization (for Example, the Shanghai Cooperation Organization)**

*Olga Borisenko*

*Transbaikal State University*

**Political Dialogue As A Kind Of Dialogues Cultures In The  
Globalization (For Example, The Shanghai Cooperation  
Organization)**

**Olga Borisenko**

Transbaikal State University, Russia

**ABSTRACT**

The dialogue in the international community is now a way to solve global problems, which not only shows the path of non-confrontation, and confirm whether to address the peaceful coexistence of different cultures and civilizations.

One kind of cultural dialogue in today serves the political dialogue, as only he can at the level of consolidation of various political interests to form the strategy and tactics of the harmonious existence of worlds.

The main moment of the political dialogue is the realization partner. In Shanghai were made problems which are personified in life. The strong base is created for working. Shanghai Cooperation Organization (SCO) will leave on new borders cooperation and will enlarge its contribution to decision of the global problems. Intercultural the interoperability cannot occur differently, than through interoperability of individual outlooks. The major problem at the analysis of intercultural interoperability is disclosing the mechanism of interactions.

One of the defining tendencies of the present stage of progress of international relations became promotion on the foreground of the questions connected with maintenance mezhcivilization dialogue of an agreement in the world.

Complexity of dialogue of cultures and its polysemy is represented depending on its participants, contents, objectives and a level of dialogue.

Progress of bilateral cooperation of Russia with other states of the organization should become a basis for systematic expansion of multilateral cooperation in the Central Asia. To no small degree progress of the Shanghai organization of cooperation will help universal process of an establishment new –more modern – the international order.

## Society II

14:30-16:15, December 15, 2012(Room 3)

### **179: Adolescent Suicide Triggered by Problems at School in Korea**

<i>Ick Joong Chung</i>	<i>Ewha Womans University</i>
<i>Ji Yeon Lee</i>	<i>Ewha Womans University</i>
<i>Jae Yeon Park</i>	<i>Ewha Womans University</i>
<i>Seon Kyeong Ahn</i>	<i>Ewha Womans University</i>
<i>Ji Sun Kim</i>	<i>Ewha Womans University</i>
<i>Eun Jeong Lee</i>	<i>Ewha Womans University</i>

### **221: The Influence of Elderly Workers' Labor States on Their Quality of Life; Focusing on Social Network as an Influence Factor**

<i>Pyung Hwa Jung</i>	<i>Ewha Womans University</i>
<i>Hye Youn Jun</i>	<i>Ewha Womans University</i>
<i>Yong Hee Kwon</i>	<i>Ewha Womans University</i>
<i>Won Ji Lee</i>	<i>Ewha Womans University</i>

**Adolescent suicide triggered by problems at school in Korea****Ick-Joong Chung<sup>a,\*</sup>, Jae-yeon Park<sup>b</sup>, Seon-Kyeong Ahn<sup>c</sup>, Ji-Sun Kim<sup>d</sup> and Eun-Jeong Lee<sup>e</sup>**

Ewha Womans University

**ABSTRACT**

**Purpose:** Recently, issues related to adolescent suicide have received much attention in Korea. The rate of suicide is 22 for every 100,000 people in 2008—the highest in the world in that year. The rate of adolescent suicide in the country was 5.3% in 2001, but it increased rapidly to 8.0% in 2008. Problems at school (e.g., declining academic grades, increasing academic stress and school violence) have comprised the single largest catalyst of adolescent suicide in Korea, accounting for 11.7% of all suicides in this demographic group in 2010, for instance. Suicide has now become the most prevalent cause of death among Korean teenagers. This study aims to investigate adolescent suicide triggered by problems at school in Korea, by focusing on four dimensions of suicide: depression, suicidal ideation, plan and attempt.

**Methods:** Data were collected from 664 middle- and high-school students in Korea; structural equation modeling analyses were utilized. Factors such as academic stress and school violence are considered as independent variables, while ego resilience, family resilience, and academic resilience are considered as mediators which are also protective factors. The dependent variables consist of four dimensions related to adolescent suicide: depression, suicidal ideation, suicidal plan, and suicidal attempt. Differences in the paths among models with different dependent variables are compared.

**Results:** The results of the structural equation modeling analyses indicated that academic stress has positive effects on depression, suicidal ideation, and suicidal plan, but negative effects on family and academic resilience. School violence has positive effects on depression, suicidal ideation, plan, and attempt but negative effects on family resilience. Both ego and family resilience act as protective factors, negatively affecting depression and suicidal ideation. Ego resilience, however, has no significant effect on suicidal plan or attempt while family resilience has negative effects on all four dimensions. This study has confirmed that academic stress and school violence relate to adolescent suicide as risk factors. The effects of protective factors diminish in dimensions that are acute in nature, such as a suicide plan or attempt. Family resilience is a key protective factor in models of all four dimensions. Throughout this study, the effects of ego resilience pointed at different directions: ego resilience played a function as a direct protective factor—together with family resilience on depression and suicidal ideation, while it did not have a significant effect on suicidal plans or attempts, as a protective factor. Family resilience, however, seemed to have a significant effect on each of the four dimensions of suicide.

**Implications:** The findings indicated that a high level of academic stress at school does not necessarily lead to a suicidal attempt. However, it can become a risk factor that could lead to a suicidal attempt if a student suffers from a high level of stress while simultaneously experiencing depression and having ideas about a suicidal attempt—especially, if related symptoms worsen and timely treatment is not provided.

Therefore, when adolescents reach a certain level of depression or suicidal ideation, it is extremely important to apply a direct intervention and selective treatment, in order to prevent them from reaching a more serious dimension of suicide. Additionally, in order to reduce the amount of stress experienced by most adolescents in Korea, it is necessary to change the social atmosphere related to the Korean education system, as well as education policies that put too much emphasis on the university entrance examination. Instead of overly emphasizing academic achievements expressed in terms of the university entrance examinations, it is necessary to help adolescents find meanings in their lives in other areas. Similarly, it is necessary to encourage them to find a career path appropriate to their own capabilities and aptitudes.

**The influence of elderly workers' labor states on their quality of life;  
- Focusing on social network as an influence factor –**

**Jung Pyung Hwa<sup>a,\*</sup>, Jun HyeYoeun<sup>b</sup>, Kwon YongHee<sup>c,\*</sup>, Lee WonJi<sup>d</sup>**

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**ABSTRACT**

The aim of this study is to research the influence of elderly workers' labor type on their quality of life focusing on social network as an influence factor.

Research data is the third Panel Survey of Korean Retirement and Income Study by Korea National Pension Service. The subjects are 2,562 paid workers more than 55 year aged. Research method is multiple regression analysis done after classifying the factors into elderly labor type, factor, social network factor, and quality of life factor.

The findings of this study are as follows:

First, the state of unstable workers who are dayworkers and temporary employees has negative influence on their social network. Second, the state of stable workers who are regular employees has positive and negative influence on their social network. Third, social network has positive influence on elderly workers' quality of life. Therefore, the stable job has more positive influence on the quality of life than the unstable job.

According to the result, the state of dayworkers and temporary employees has negative influence on their quality of life by weakening almost social network. The state of regular employees has some positive influence on their quality of life by improving social network which is involved in the number of leisure activities. However, it has also some negative influence on the quality of life related to neighbors' relationship, and family relationship. The regular employees tend to support their leisure activities with their stable economic power. Further study is needed in this part.

The result of this study indicates that the social support program about the stable job needs to be developed to encourage the elder's social network in order to improve their quality of life

Keywords : elderly workers' labor state, quality of life, social network

## Society III

10:00-12:00, December 16, 2012(Room 3)

### **230: Predictive Factors for School Adjustment for Children in Kinship Foster Care**

*Choong Rai Nho*

*Ewha Womans University*

*Soomin Cho*

*Ewha Womans University*

*Jung Hwa Kim*

*Ewha Womans University*

*Hye Jung Shin*

*Ewha Womans University*

### **234: Issues Related To Development and Validation of Korean Cultural Competency Scale**

*Soomin Cho*

*Ewha Womans University*

*Choong Rai Nho*

*Ewha Womans University*

*Jung Hwa Kim*

*Ewha Womans University*

*Hye Jung Shin*

*Ewha Womans University*

## Predictive factors for school adjustment for children in kinship foster care

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Jung Hwa Kim, doctoral student

Hye Jung Shin, doctoral student

**Background & Purpose:** As a way to comply with UN CRC recommendations, the Korean government has made various efforts to make changes for children in out-of-home placement, particularly for children in foster care. Yet little is known on cost-benefit analysis for children in child welfare system and on the outcomes of children in foster care in particular. In the USA, outcome studies for children in foster care have often focused on dropout rates or attainment of high school diploma. With this in mind, and with a notion that children in foster care, group home and large residential facility in Korea may show different outcomes, this study, based on the preliminary data analysis of a multi-year project, aims to identify predictive factors for school adjustment among children in kinship foster care and to discuss child welfare implications both in the USA and in Korea.

**Methods:** For the purpose of the study, researchers recruited 252 children in kinship foster care with permission from foster care agencies and employed self-administered questionnaires to measure school adjustments, which was operationalized as the composite score of school life satisfaction, school achievement, task performance and readiness, and perceived peer relationships. The level of school adjustment was then categorized into three groups: Low, moderate and high risk groups. Researchers, using ordered logistic regression, attempted to identify predictive factors for children who might fall into the low risk group.

**Results:** While controlling for perceived family economic status, gender, and school grades, levels of physical and mental health, conflicts among members in foster care families, support and supervision by foster parents, care giving stress by foster parents, relationship with case workers, and the level of contacts with biological parents were identified as statistically significant variables. That is, children with low support and supervision by foster parent and with severer conflicts with foster family members would be likely to fall into a high risk group. Meanwhile, children with more contacts with biological parents also showed higher level of school maladjustment. This may indicate that number of contacts with biological parents may not just increase the level of school adjustment. Interestingly, the higher the level of care giving stress foster parent had, the better school adjustment foster child had. This result may reflect a cultural issue, which involves that foster parent, like other Korea parents, may be under a high level of pressure to provide supports and supervision in order to raise a foster child in a highly competitive society. A foster child with better relationship with a caseworker also showed higher level of school adjustment.

**Conclusion & implication:** Based on the results, authors discuss ways to help foster children adjust better in school by making interventions for both foster child and his/her

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foster parents, by helping them develop positive relationships, by making ongoing contacts and maintaining healthy relationship with biological parents. The results of the study would be compared to outcome studies in the USA and researchers would discuss cultural differences and similarities in child welfare area.

## Issues related to development and validation of Korean cultural competency scale

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### 1. BACKGROUND AND PURPOSE

Ten percentages of the total marriages in Korea and approximately 40% of marriages in agricultural areas nowadays involve international marriages, particularly between Korean man and Southeast Asian woman. This phenomenon requires changes in not only social work practice and policy but also social work education. As the Korean government sets up multicultural family support centers throughout the country, social worker and human service workers have more contacts with multicultural families. Although previous researches have addressed adjustment and integration of Southeast Asian women to Korean culture, mental health issues, bilingual education, and marriage satisfaction, little is known on cultural competency among human service workers. This study aims to identify several methodological and cultural issues related to development and validation of Korean cultural competency scale, while making comparison with Multicultural Counseling Inventory (MCI), Multicultural Counseling Knowledge and Awareness Scale (MCKAS).

### 2. METHODS

For the purpose of the study, researchers used several steps to develop and validate Korean Cultural Competency Scale (hereafter, KCCS). First, researchers recruited 8 workers in multicultural family support centers for Focus Group Interview (FGI) in order to identify unique features of cultural practices in working with multicultural families. Second, researchers also contacted 5 social work professors in order to test content validity using pre-identified cultural items. Third, researchers then hired consultants who are knowledgeable of development and validation of scale. Finally, based on lists of social work and related agencies providing services to multicultural families, researchers then recruited 198 workers asking relevance of items. This study used exploratory and confirmatory factors analysis, internal validity test, split half Spearman-Brown method, and convergent validity.

### 3. RESULTS

Results of the study were promising. Exploratory factor analysis showed four sub-factors, which includes multicultural practice skills, cultural awareness and sensitivity, multicultural knowledge, and efforts to overcome cultural differences. Compared to other previous factors, the last factor seems to be a unique factor, as many Korean human service workers have very short period of experiences with multicultural families. Confirmatory factor analysis showed CFI, TLI and RMSEA were in satisfactory levels, which indicates that the model fitness was upheld. Internal validity test ranged from .68 to .93 and Split Half Spearman-Brown validity was at .89. Convergent validity test as well as discriminant validity test showed the KCCS had high correlations with other previous scales.

#### **4. CONCLUSION AND IMPLICATIONS**

Although KCCS seems to be useful to measure cultural competency level among human service workers, several methodological and practical issues were identified during and after the development and validation of the scale. These issues involve cultural universalism and relativism, uniqueness of skills and knowledge for Korean practitioners, sample size, use of items, and future research issues. The authors discuss these issues while making comparison with previous cultural competency scales. The authors also discuss implication for social work students and educators.

## **Society VI**

**14:30-16:15, December 16, 2012(Room 3)**

**277: Experiences of Thai Elderly Person's Self-Care Performances in Eating Behavior**

*Hathairat Budsayapanpong*

*Boromarajonani College Of  
Nursing, Chainat*

## Experiences of Thai elderly person's self-care performances in eating behavior

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### ABSTRACT

This phenomenological qualitative research has the aim of description and interpretation of experiences of elderly person's self-care performances in eating behavior. Approach to sampling focus group was purposive sampling technique. Respondents engaged in this study the 18 elderly living in Moo 6, Tambon Chainat, Aphoe Muang, Chainat province who have volunteered to participate in focus group. This study was conducted during 15-29 February 2010 and decided to use in-depth interviewing as the main method for data collecting. Interview data consisted of tape recordings, type transcripts of tape recordings, and interviewer's notes. Inductive approach was used in qualitative data analysis.

Results indicated that all participants experienced health problems but have different eating habits. The youngest and oldest participant was 60 years and 82 years, respectively. Experiences of the elderly's self-care performances in eating habits can be divided into two groups which were unhealthy eating habits group and healthy eating habits group. It was found that factor affecting healthy eating habit was family experience of living with disease due to poor eating habits.

Bodies of knowledge relevant to the elderly's self-care performance are dependent upon the context of family, economic status, appetite and health status, respectively. The elderly's behavior must be taken into account prior to changing their eating patterns. Therefore, the public health care provider must hold and learn information about the behavior of the elderly in confidence to enhance care contribute to improve the elderly's health status.

Keywords: Experiences of elderly person's self-care performances, eating behavior

### 1. INTRODUCTION

As a consequence of advances of medicine and public health, Thailand is currently experiencing a rapidly growing population of older persons. The elderly population living in the central region of Thailand, Chainat, Saraburi, Lopburi, PhraNakhon Sri Ayutthaya, Singburi and Angthong, was 13.60%, 14.73% and 16.13% in 2000, 2005 and 2010, respectively. The number of the older persons living in Chainat province found 12.65%, 13.08% and 13.42% in 1997, 1998 and 1999, respectively (Office of the National Economic and Social Development Board, 1995:1). An increasing number of older persons may present significant problems contributing to physical health problems, mental problems, social problems and cultural problems. PramotePrasatkun (2003: 12-14), identified number of the elderly aged 60-69 years age group and 90 years and above group reporting a chronic disease accounted for 69.30% and 83.3%, respectively.

Boromarajonani College of Nursing, Chainat located in Moo 6, Ban Tai Muang, Tambon Chainat, Amphoe Muang, Chainat province Thailand. Nursing students has been

regularly sent to this community to learn and practice their skills better by active participation in problem solving and critical thinking regarding an authentic learning activity. It was found that the number of older persons was very high in this community. Accordingly, results of study are further used to develop health care program for the elderly.

## **2. OBJECTIVES**

This phenomenological qualitative research has the aim of description and interpretation of experiences of elderly person's self-care performances in eating behavior.

## **3. CONCEPTUAL FRAMEWORK**

This study was designed as a qualitative research using hermeneutic phenomenology which enabled the exploration of participants' experiences with further abstraction and interpretation by the researchers based on researchers' theoretical and personal knowledge.

## **4. OPERATIONAL DEFINITIONS**

Experiences of elderly person's self-care performances in eating behavior referred to eating habits and appetite control in the elderly. Elderly referred to population aged 60 and above group living in Moo 6, Ban Tai Muang, Tambon Chainat, Amphoe Muang, Chainat province Thailand.

## **5. RESEARCH TIMELINE**

This study was carried out during 15-19 February 2010.

## **6. ANTICIPATED RESULTS**

1. Background data for the research project that can be used to develop health care program for the elderly.
2. Background data regarding attitude and eating habit in the elderly that can be used for further research.

## **7. RESULTS**

Results revealed that all participants experienced health problems but have different eating habits. The youngest and oldest participant was 60 years and 82 years, respectively. Experiences of the elderly's self-care performances in eating habits can be divided into two groups as follow.

### **7.1 Unhealthy eating habits group**

1. Seven participants did not have health and nutrition concerns, they did feel like eating and ate what they like to eat. A case study showed that a 60-year-old participant with a history of diabetes over ten years living with one children and five seniors. She always eats sticky rice at every meal. She had feeling effects of high blood sugar; feeling weak and tired, for the past three weeks. The blood sugar was

higher than 200 mg/dl. The doctor told her to avoid eating too much starch and sugar in order to keep her blood sugar from going too high. Instead, her husband cooking her rice in small amounts; one ladle or one cup. She had feeling weak and tired. However, she did feel good after eating few oranges after meal. The doctor told her to eat unsweetened fruit such as guava. She could not eat guava because she found it hard to chew. Instead, she ate orange and marian plum about two kilos a day. In addition, she was constantly ate salty foods and avoid exercising. Another case study showed that a 65-year-old participant with a history of high blood pressure. He had hypertension at age 60-years after drinking too much alcohol for years. He felt senseless on left arm and leg. The doctor made him stop drinking and taking medicine. He felt better. In 2010, he had coronary artery disease and septicemia. According to the doctor's advice, stop drinking coffee, he felt better. Currently he went back to drink coffee.

2. Three participants did not pay attentions to their daily diets. Instead, they took medicine to suppress the symptoms after eating each meal. A case study showed that a 80-year-old participant with a history of heart disease, stroke and hyperlipidemia. She had constantly a regular routine of eating salty foods. The doctor told her to avoid frying foods. Instead, she ate frying foods but took medicine to suppress the symptoms after eating each meal.
3. Three participants knew their forbidden food, but did feel like eating. They ate small quantity and stop eating when they felt satisfied. A case study showed that a 74-year-old participant with a history of diabetes. According to the doctor's advice, foods to avoid, and foods to eat, she always has a selection of fish in every meal. She did eat some desserts in very small amounts. Syrup water drink always put into the refrigerator. In addition, she always has forbidden fruits for diabetes such as banana, durian, and sapodilla. Another case study showed that a 67-year-old participant has a history of heart disease and has a pacemaker. She knew her forbidden foods for her syndrome. She ate those foods but in small amounts.
4. Three participants have poor economic status. They could not effort healthy food. A case study showed that a 60-year-old participant with a history of hyperlipidemia, cataracts and osteoarthritis of the knee. She cooked for herself due to her situation, having much money spending on food and getting the best food. According to the doctor's advice, avoiding foods high in salt and sugar, she tried instead to cook herself low-sodium foods and only put a little fish salt in rice. In addition, she had been recommended to eat more fruits and vegetables. Because of hyperlipidemia is closely related to diabetes. She liked to eat banana but cooked a bananas in coconut milk instead. Another case study showed that a 60-year-old participant with a history of hyperlipidemia. At 37 years of age, she was pointed out hyperlipidemia. Stress and anxiety could cause her high blood pressure. She looked for ways to relieve stress and anxiety such as avoiding stressful situations. In addition, she always took common medicine for stress and pain reliever-Paracetamol which is usually bought over the counter without a prescription. She also drank alcoholic herbal liquor drink recipes that contain three bottles of rice whiskey and herbs to relieve stress and anxiety. Because it's cheaper than going to the doctor. The price for herbs is only 100 baht, but for going to the doctor is 200 baht. Therefore, instead of going to the doctor, she drank alcohol for stress and anxiety relief. Her daily routine lifestyle was

having a canned coffee in the morning, ate breakfast at noon and late afternoon lunch.

## **7.2 Healthy eating habits group**

Results found that two participants with known underlying disease changed their eating habits that threaten their well-being and even their lives. A case study showed that a 60-year-old participant who own sweet shop for over 40 years has been diagnosed with diabetes. She liked to eat sweetened fruits; i.e. longan ,lychee and durian, and sweet and desserts. Recently she stopped eating them since she has been diagnosed with high cholesterol and felt a squeezing or heavy pressing sensation on her chest last four months. The doctor told her to stop craving sweet, salty and saturated fat foods. In addition, she needed varicose vein surgery so that she has to lower her weight. She continued to avoid exercise despite a need to lose weight. She was afraid to end up old and wrinkly after losing weight. Therefore, she changed her diet and lifestyle instead. She ate a small amount of breakfast and skip lunch. Dinner was usually taken before 21.30 pm. She ate fruit snacks such as orange and guava and also stopped drinking coffee and soft drink.

In spite of studying experiences of elderly person's self-care performances in eating habits, background thought to eating habits had been learnt and reported .A case study showed that a 65-year-old participant who was single and living with her sister and nephew. She joined the village committee. She usually had three full meals but in a small amount and cooked vegetable dishes for her family. The only fruit she ate was papaya. The only dessert she ate despite the guilt associated with eating unhealthy foods was kind of Chinese dessert made of boiled soybean, sugar and coconut milk. She always drank lots of water after she had been eaten dessert. She was administrative officer until retiring at age 60-years.After retirement she has been diagnosed with hypertension. On subsequent follow-up, her blood pressure was maintained in normal range. At age 64-years, she became weak and didn't feel hungry enough to eat. She was worried and went to see a doctor. She was really afraid of the diagnosis. Her mother and sister had diabetes and had one complication after the other until it finally killed them. The doctor diagnosed her with diabetes. Therefore background research was collected in an attempt to learn factors affecting eating habits. It was found that factor affecting her eating habit was family experience of living with diabetes. In addition, the work of the village public health volunteers has brought about nutrition and other health information. She shared her experiences and knowledge with other village members to improve knowledge about good health and nutrition practices.

## **8. CONCLUSION**

Results indicated that experiences of elderly person's self-care performances in eating behavior can be divided into two groups; 1) unhealthy eating habits and 2) healthy eating habits. It was found that factor affecting healthy eating habit was family experience of living with disease due to poor eating habits. Therefore they changed their lifestyle and eating habits. This finding conformed to the view of Chittinan Pongsuwan (1995:106), the biggest source of knowledge for anybody is experience. On the contrary, the other group ate in response to physical hunger. Buddhist ethic, since human beings must inevitably be involved in material things, because their lives are naturally dependent on them, they must have material things like food, clothing, dwelling places and medicine in order to live. The principle in relation to consumption is not to consume playfully, but for subsistence of the body and for the relief of physical discomfort and painful feelings such



as hunger (Kunludee Chittaanant, 2010:23).

## 9. RECOMMENDATIONS

1. Nursing service: The research result found that the public health care provider must hold and learn information about the behavior of the elderly in confidence to enhance care contribute to improve the elderly's health status.
2. Nursing education: Authentic learning should be provided for all levels of college education to encourage students to adopt diverse roles and take control over their own learning. Students will capable of applying their knowledge and skills to real-life contexts and situations. Additionally, students will realize the importance of attitude towards hospitality in nursing service.
3. Further research: Results of study are further used to develop health care program for the elderly.

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# **2012 Annual Conference on Global Economics, Business, and Finance**

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# GEBF Schedule

## Oral Sessions

Saturday, December 15, 2012

<b>08:00-16:00 Registration (G/F, Hong Kong SkyCity Marriott Hotel)</b>	
<b>Meeting Room 4</b>	
	<b>Session Field: Business Management I</b> <b>Session Chair: Dr. Isaias Lagsa Borres</b>
	<p>08:45-10:15</p> <p>1651: <b>Leadership Behavior Practices of Supervisors Correlated to Organizational Commitment in the Insurance company in the Philippines</b>  <i>Isaias Lagsa Borres (Our Lady of Fatima University, Philippines)</i></p> <p>1666: <b>Structural Relationship Of Influential Factors to The Air Transport Performance</b>  <i>Noppawan Ariyadej, Napaporn Khannapa, Montree Piriyaikul, &amp; Nipa Rungruangwuddikrai (Ramkhamhaeng University, Thailand)</i></p> <p>1272: <b>The Structural Relationship of Factors Affecting Work Effectiveness and Intention to Stay of Large Commercial Banks Staff</b>  <i>Napaporn Khantanapha, Montree Piriyaikul, Suprasith Jarupathirun (Ramkhamhaeng University, Thailand) &amp; Dechaphan Ratsanasart (Silpakorn University, Thailand)</i></p> <p>1693: <b>An Analysis Of Women Employees Stress: An Empirical Study With Reference To Teaching Professional In India</b>  <i>Maran kaliamoorthy (Sri Sairam Institute of Management Studies), Nirmala Venkataramani (Mother Teresa University) &amp; R.Udhayasankar (Sri Sairam Institute of Technology, India)</i></p> <p>482: <b>Analysis Of Foreign Direct Investment On Service Sector: A Study With Reference To India</b>  <i>Pravat Kumar Sarangi (International Institute of Biotechnology and Toxicology, India), Maran kaliamoorthy (Sairam Institute of Management Studies, India) &amp; R.Udhayasankar (Sri Sairam Institute of Technology, India)</i></p>
<b>10:15 - 10:30</b>	<b>Welcome Coffee Break Group Photography I</b>
	<b>Keynote Speech @ Meeting Room 2</b>
	<b>Hong Kong 1997–2012</b> <b>A Report on the HKSAR since the Handover</b> <i>By Prof. Victor F. S. Sit</i> <i>(Hong Kong Baptist University)</i>
<b>10:30 - 12:00</b>	<b>KEY FEATURES</b> <ul style="list-style-type: none"> <li>• A systematic review of the developments in Hong Kong during the 15 years after the former British colony's return to China</li> <li>• Provides detailed information on various aspects of Hong Kong's development, including the socio-economic situation, constitutional developments, and government structure</li> <li>• Serves as a source of comprehensive data using numerous tables and charts from different government departments and authorities</li> </ul>

	<ul style="list-style-type: none"> <li>Analyzes the effects of important past events on the future of Hong Kong</li> </ul>
10:30 - 12:00	Meeting Room 4
	<b>Session Field: Entrepreneurship</b> <b>Session Chair: Professor Dirk De Clercq</b>
	1669: <b>Learning Effort and Performance in Foreign Markets: An Investigation of Chinese International Ventures</b> <i>Dirk De Clercq, Lianxi Zhou (Brock University, Canada) &amp; Aiqi Wu (Zhejiang University, China)</i> 1671: <b>Exploration of the Extent of Brand Development Activities Employed By Small Businesses – A Case of Blueberry Farm</b> <i>Yi Sheng Goh (National Cheng Kung University, Taiwan)</i> 1746: <b>Exploring the Intention of OIC Food Manufacturer in Accepting Malaysia as Global Halal Hub</b> <i>Rozailin Abdul Rahman, Zainalabidin Mohamed &amp; Golnaz Rezai (University Putra Malaysia)</i> 1795: <b>Marketing Capabilities and Sustainable Firm Performance of Informal Social Micro-enterprises (ISMEs) in Developing Countries</b> <i>Eijaz Ahmed Khan, Mohammed Quaddus &amp; Anna Lee Rowe (Curtin University, Australia)</i>
12:00 - 13:00	Luncheon
	Meeting Room 4
	<b>Session Field: Financial Management I</b> <b>Session Chair: Professor Hela Miniaoui</b>
13:00-14:30	1716: <b>Determinants of Internet Financial Reporting Practices: Evidence from the UAE and Comparison with Global Best Practices</b> <i>Hela Miniaoui (University of Wollongong, Dubai) &amp; Peter Oyelere (UAE University, United Arab Emirates)</i> 1712: <b>Contingent Capital: The Case of COERCs</b> <i>George Pennacchi (University of Illinois), Theo Vermaelen &amp; Christian C.P. Wolff (University of Luxembourg)</i> 1266: <b>The Effects of Financial Crisis on Corporate Social Responsibility</b> <i>Dominique Razafindrambinina (BINUS University, Indonesia)</i> 1719: <b>A Dynamic Program for Valuing Corporate Bonds</b> <i>Hatem Ben Ameer (HEC Montréal, Canada)</i> 1752: <b>Information Asymmetry and Accounting Conservatism under IFRS Adoption</b> <i>Christy Lu &amp; Samir Trabelsi (Brock University, Canada)</i>
14:30-14:45	Afternoon Coffee Break
	Meeting Room 4
14:45-16:15	<b>Session Field: Economics</b> <b>Session Chair: Professor Zabihollah Rezaee</b>

- 1713: **Regulatory Reforms In The Aftermath Of The 2007-2009 Global Financial Crisis And Their Implications In Hong Kong**  
*Zabihollah Rezaee (The University of Memphis, USA), Danny Lo, Alexis Suen (Hong Kong Shue Yan University) & Jacky Cheung (The Hong Kong Polytechnic University)*
- 1677: **Export Orientation and Spillovers from FDI in Thailand: Evidence from Plant-level Analysis**  
*Thanapol Srithanpong (Keio University, Japan)*
- 1735: **Pollution Havens and Factor Endowments: the Case of Consumption-Generated Pollution**  
*Bin Hu (Central University of Finance and Economics, China) & Ross McKittrick (University of Guelph, Canada)*
- 1662: **Effect of Planning Horizon on Repowering Decisions of Renewable Power Producers**  
*Chenlu Lou & K. Jo Min (Iowa State University, USA)*
- 1689: **Efficiency and Bid Rigging in Simultaneous Procurement Auctions under Oligopoly**  
*Aaro Hazak (Tallinn University of Technology, Estonia, Northern Europe)*

## Oral Sessions

Sunday, December 16, 2012

<b>08:00-16:00 Registration (G/F, Hong Kong SkyCity Marriott Hotel)</b>	
<b>Meeting Room 4</b>	
<b>08:45-10:15</b>	<b>Session Field: Business Management II</b> <b>Session Chair: Professor Junaidah Hashim</b>
	471: <b>Spirituality, Integrity and Counterproductive Work Behaviours among Employees of Selected Islamic Organisations in Malaysia</b> <i>Junaidah Hashim (International Islamic University, Malaysia)</i>
	1250: <b>The Influence Of Resource Conditions Between Firm And Partners On Firm Performance In Alliance Portfolios</b> <i>Seong-Young Kim (ESC Rennes School of Business, France)</i>
	1656: <b>The Effects of Hard and Soft Factors on Product and Process Innovation Performance in the Thailand Context</b> <i>Siriphan Tantivivathanaphand, Rapepun Piriyakul, Napaporn Khatanapha &amp; Norapol Chinuntdej (Ramkhamhaeng University, Thailand)</i>
	1663: <b>Evaluating e-Business Performance using Fuzzy PROMETHEE II Method</b> <i>Kevin Kam Fung Yuen &amp; W K Chong (Xi'an Jiaotong-Liverpool University, China)</i>
1794: <b>An Investigation into the Factors Influencing Competitiveness of Ready-Made Garment (RMG) Supply Chain- The Experience from Bangladesh</b> <i>Md. Nuruzzaman, Mohammed Quaddus &amp; Ananda Jeeva (Curtin University, Australia)</i>	
<b>10:15 - 10:30</b>	<b>Morning Coffee Break</b> <b>Group Photography II</b>
<b>Meeting Room 4</b>	
<b>10:30-12:00</b>	<b>Session Field: Financial Management II</b> <b>Session Chair: Professor Jephthe Olimpo Muñoz</b>
	1699: <b>Financial Statement Analyses Of Publicly Listed Service Corporations Vis A Vis Simulated Start-Up Service Businesses: Basis For Virtual Equity Investments</b> <i>Jephthe Olimpo Muñoz (San Beda College, University of the Philippines)</i>
	1734: <b>Information Transmission among World Major Gold Futures Markets: Evidence from High Frequency Synchronous Trading Data</b> <i>Rapeesorn Fuangkasem, Pornchai Chunhachinda &amp; Sarayut Nathaphan (Thammasat University, Thailand)</i>
	1767: <b>Analysis For The Abnormal Behavior Of Companies Listed On Chinese GEM</b> <i>Liu Wei (Huazhong University of Science and Technology, China)</i>
	1654: <b>Testing The Accruals And Cash Flows Anomalies For The Indian Stock Market</b> <i>Sanjay Sehgal, Srividya Subramaniam (University of Delhi, India) &amp; Florent Deisting (Group ESC Pau, France)</i>
477: <b>Momentum And Industry-Dependence: The Case Of Shanghai Stock Exchange Market</b>	

	<i>Salvio Elias Macha (Dongbei University of Finance and Economics, China)</i>
12:00 - 13:00	<b>Luncheon</b>
13:00-14:30	<b>Meeting Room 4</b>
	<b>Session Field: International Business &amp; Marketing Management</b> <b>Session Chair: Professor Kazuyuki Motohashi</b>
	1760: <b>An Innovative Marketing Model Based On AIDA- A Case From E-Bank Campus-Marketing Done By CCB</b> <i>Li jiangyu (Beijing Normal University) &amp; Yu Haibo (Beijing Rep Office, Sun Life Assurance Company of Canada)</i>
	1653: <b>Managing Competency Creating R&amp;D Subsidiaries: Evidence From Japanese Multinationals</b> <i>Kazuyuki Motohashi (The University of Tokyo)</i>
	1702: <b>Learning-oriented Internationalization of Chinese Firms</b> <i>Huei-ting Tsai (National Cheng Kung University)</i>
	1750: <b>Doing Business in China: What is the Use of Having Contracts?</b> <i>Berry Kwock &amp; Mark James (United International College: Beijing Normal University – Hong Kong Baptist University, China)</i>
14:30-14:45	<b>Afternoon Coffee Break</b>
14:45-16:15	<b>Meeting Room 4</b>
	<b>Session Field: Tourism Management &amp; Management</b> <b>Session Chair: Professor Honyu Ma</b>
	1768: <b>Exploring Operating Efficiency of Tourist Shuttle Routes in Taiwan</b> <i>Jung Hsuan Huang &amp; Chin-Yi Fang (National Taiwan Normal University)</i>
	1744: <b>Leisure and Economic Efficiency: A Panel Analysis in OECD Countries</b> <i>Xiang Wei (Beijing International Studies University), Hailin Qu (Oklahoma State University, USA) &amp; Hong Fan (Beijing International Studies University)</i>
	1777: <b>The Relationship of Work-Family Balance and Work – Family Conflict and Enrichment</b> <i>Hongyu Ma, Chuangang Shen, Hanying Tang, Bin Wang (Central China Normal University)</i>
	1670: <b>Study on the Flexible Manufacturing of Continuous Process Enterprises with Large Scale and Multiple Products</b> <i>Xu Yi-Gang, Du Yi-fei, Zeng Yong &amp; Li Shi-ming (University of Electronic Science and Technology of China)</i>
	1778: <b>Developing Business Models For Radical Innovations: A New Venture's Perspective</b> <i>Yann Truong &amp; Viatcheslav Dmitriev (ESC Rennes School of Business, France)</i>

## Poster Sessions

**Poster Session I**  
**Saturday, December 15, 2012**  
**Meeting Room 3**

<b>10:00-12:00</b>	<b>Session Field: Financial Management</b>
	<p>484: <b>Effect of China's Commercial Banks' Diversified Revenue on Performance</b>  <i>Yongqin Deng, Zhaoyang Li &amp; Yuan Yi (Hunan University, China)</i></p> <p>485: <b>Impact of the Fair Value Measurement on the Value Relevance of Accounting Information—Empirical Evidence from Listed Companies in China</b>  <i>Yongqin Deng, Lili Kang &amp; Lifang Zhang (Hunan University, China)</i></p> <p>1705: <b>How Chinese Government Optimize Private Equity Investment Environment : Overseas Experiences And Enlightenment</b>  <i>Jiang Zhu (Hua Zhong University of Science &amp; Technology, China) &amp; Yang Xiaohua (Beijing Technology and Business University, China)</i></p> <p>1776: <b>An Analysis on the Corporate Debt Structure in Vehicle Rental Industry</b>  <i>Wang Wanxin (University of Hong Kong)</i></p> <p>1247: <b>Affecting Factors on choice of Family financial assets in China's Rural Households</b>  <i>Lingjuan Xu, Yan Zhang &amp; Guoli Zhang (Nanjing University of Aeronautics and Astronautics)</i></p>
	<b>Session Field: Economics</b>
	<p>1658: <b>Modeling Volatility of Stock Index Futures Based on Threshold Multiplicative Error Model</b>  <i>Cao Gang, Guo Mingyuan &amp; GaoShuang (Tianjin University, China)</i></p>

**Poster Session II**  
**Sunday, December 16, 2012**  
**Meeting Room 3**

<b>10:00-12:00</b>	<b>Session Field: Business Management</b>
	<p>1691: <b>Research on the Evolution Mechanism of Industry Cluster Based on the Knowledge Diffusions between Enterprises and Institutions</b>  <i>Ping Hu, Yang Jiao &amp; Yanping Lu (Xi'an Jiaotong University, China)</i></p> <p>1763: <b>Pricing Strategy of Service Provider in Cloud Computing</b>  <i>Victor B. Kreng, Hsing-me Chen &amp; I-chin Su (National Cheng Kung University, Taiwan)</i></p> <p>1774: <b>Discussion on the Free Port Strategy of China</b>  <i>Jiuling Li (Shanghai Customs College, China)</i></p> <p>1751: <b>Construction of Chinese Listed Companies Governance Risk and Its Oversight Mechanisms</b>  <i>Shi Hong &amp; Qi Linkai (Business School of Hohai University, China)</i></p>
	<b>Session Field: International Business</b>



464: **The Compare of Service Trade Technology Structure Among Shanghai, Hong Kong and Singapore**

*Zha Guiyong & Jiang Feng (Shanghai Customs College, China)*

**Session Field: Marketing Management**

1682: **Comparison of Culture Creative Industry in Hong Kong, Macau, and Taiwan**

*Bing Zhao & Yanru Ma (Capital University of Economics and Business, China)*

**Session Field: Tourism & Management**

1759: **Research of Tourism Gaze : the Development in Recent Two Decades**

*Yuanyuan Wang (Beijing International Studies University, China)*

# Program- Oral Sessions

## Business Management I

8:45-10:15, December 15, 2012 (Room 4)

**Session Chair:** *Dr. Isaias Lagsa Borres*

**1651: Leadership Behavior Practices of Supervisors Correlated to Organizational Commitment in the Insurance Company in the Philippines**

*Isaias Lagsa Borres*

*Our Lady of Fatima University*

**1666: Structural Relationship Of Influential Factors to The Air Transport Performance**

*Noppawan Ariyadej*

*Ramkhamhaeng University*

*Napaporn Khannapa*

*Ramkhamhaeng University*

*Montree Piriyakul*

*Ramkhamhaeng University*

*Nipa Rungruangwuddikrai*

*Ramkhamhaeng University*

**1272: The Structural Relationship of Factors Affecting Work Effectiveness and Intention to Stay of Large Commercial Banks Staff**

*Napaporn Khantanapha*

*Ramkhamhaeng University*

*Montree Piriyakul*

*Ramkhamhaeng University*

*Suprasith Jarupathirun*

*Ramkhamhaeng University*

*Dechaphan Ratsanasart*

*Silpakorn University*

**1693: An Analysis Of Women Employees Stress: An Empirical Study With Reference To Teaching Professional In India**

*Maran kaliamoorthy*

*Sri Sairam Institute of Management Studies*

*Nirmala Venkataramani*

*Mother Terasa University*

*R.Udhayasankar*

*Sri Sairam Institute of Technology*

**482: Analysis Of Foreign Direct Investment On Service Sector: A Study With Reference To India**

*Pravat Kumar Sarangi*

*International Institute of Biotechnology and Toxicology*

*Maran kaliamoorthy*

*Sairam Institute of Management Studies*

*R.Udhayasankar*

*Sri Sairam Institute of Technology*

## Leadership Behavior Practices of Supervisors Correlated With Organizational Commitment Of The Insurance Company In The Philippines

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### **ABSTRACT**

Leadership shapes the system that produces patterns of interaction and the meaning that other players attach to organizational interests. Good leaders are made not born. If a person has an ardor and will power he can become an effective leader. The author x-rayed the relationship between leadership behavior practices and organizational commitment of insurance company in the Philippines. Through leadership behavior practices innovation, a company can differentiate itself. This study employed the descriptive survey method with the use of the questionnaire/checklist as the major instrument for gathering data. Stratified sampling was used and there were two (2) groups of employees – the supervisor and rank and file employees. Percentage, Weighted mean, T-test and Pearson product moment correlation were the statistical treatment of data used. The respondents of the study were composed of twenty (20) supervisors and thirty (30) rank and file employees of different qualifications according to age, educational attainment, position and other factors. A five-point scale was used taken from literature.

There are significant differences in the assessments of supervisors and rank & file respondent as to the extent supervisors practiced transactional leadership ( $t=1.863$ ) and laissez faire ( $t=2.15$ ). However, no significant difference was observed as to the respondent's perception in transformational leadership ( $t=0.649$ ). Organizational Commitment of Respondents Supervisor and Rank & File, an overall weighted mean is 3.38 respondent supervisors are partly agreed of belonging to their organization. In overall weighted mean is 3.45 that respondents rank & file is partly agree in belonging to their organization. As to Correlating Leadership Behaviors and Organizational Commitment, there is significant relationship between organizational commitment and the following leadership behaviors: the transformational ( $r=.51$ ,  $t=4.08$ ); transactional ( $r=.56$ ,  $t=4.64$ ); and laissez faire ( $r=.35$ ,  $t=2.6$ ).

**Keywords:** Leadership behavior, organizational commitment, transactional leadership, transformational leadership and laissez faire.

### **1. INTRODUCTION**

Good leaders are made not born. If a person has an ardor and willpower, he can become an effective leader. Good leaders develop through a never-ending process of self-study, education, training, and experience. Dubrin (2009) pointed out that a growing body of evidence supports the common-sense belief that leadership contribute to

organizational effectiveness. In the study of Sutcliffe (2002) found evidence that leaders who used a style of leadership that is a better match to the factors of situation are more successful.

Payos (2011) mentioned to inspire workers into higher levels of teamwork, there are certain things leaders must be, know, and do. These do not come naturally, but are acquired through continual work and study. Drucker (1990) claimed that good leaders are continually working and studying to improve their leadership skills; they are not resting on their laurels.

Leadership is a process by which a person influences others to accomplish an objective and directs the organization in a way that makes it more cohesive and coherent. Leaders carry out this process by applying their leadership attributes, such as beliefs, values, ethics, character knowledge, and skills. Although their position as a manager, supervisor, leader, etc. gives them the authority to accomplish certain tasks and objectives in the organization, this power does not make them leaders, it simply makes them the boss.

Leadership differs in that it makes the followers want to achieve high goals, rather than simply bossing people around. Stanton (1982) Leadership behavior is all about the leader's mode of influencing the member. It also has three styles: the transformational, transactional and laissez faire. These three styles have different characteristics like transformational which focus is on people-oriented, transactional focus on task oriented, and laissez faire that has no leadership at all.

This study also tackled organizational commitment that pertains to the attachment of employees to the organization, which also has three kinds: the affective commitment, continuance commitment and normative commitment (Meyer & Allen, 1991). Identifying, developing and sustaining leadership in an organization must be one of the strategic objectives of the leaders. Without leaders at every level of the organization, the organization may well under-perform. It may miss strategic opportunities, stifle innovation, underutilize the employees, and fall short of its goals in customer service, quality, productivity, and profitability.

To understand the relationships between leadership behaviors and organizational commitment, the researcher conducted a study at the insurance company to identify the supervisor's leadership behaviors and organizational commitment of both supervisors and rank-and-file employees.

### **Research Questions**

1. As assessed by the respondent supervisors and rank and file employees, to what extent do the supervisors practice the following leadership behaviors:

1.1 Transformational leadership

1.2 Transactional leadership

1.3 Laissez faire

2. Is there a significant difference between the assessment of the respondent supervisors and rank and file employees as to the extent supervisors practice the leadership behaviors cited in Problem Number 1?

3. What is the level of organizational commitment of the two groups of respondents?

4. Is there a significant relationship between leadership behaviors and organizational commitment?

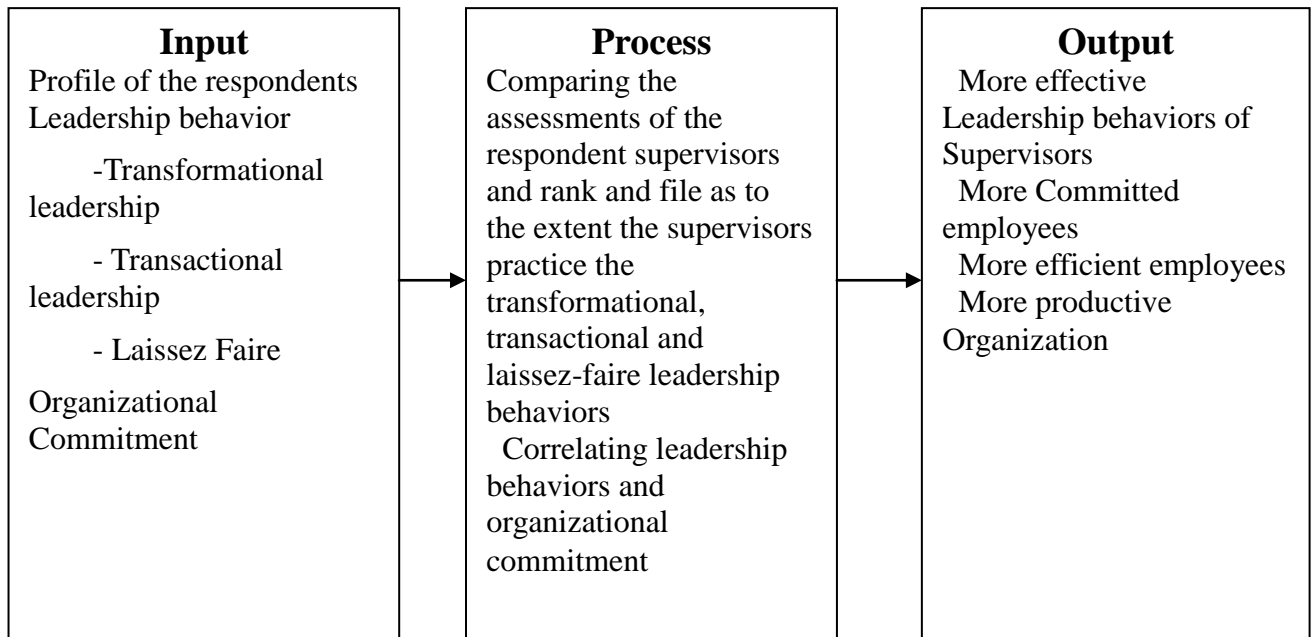
## Research Hypothesis

The following hypotheses were tested in this study:

1. There is no significant difference between the assessments of the respondent supervisors and rank and file as to the extent the supervisors practice the leadership behaviors cited in Problem Number 1.
2. There is no significant relationship between leadership behaviors and organizational commitment.

## Conceptual Framework

Figure 1 Research Paradigm



The above figure shows that inputs of the study were the profile of the respondents, the three styles of leadership behavior, namely transformational leadership, transactional leadership and laissez faire and level of organizational commitment. Then it was processed through comparing assessments of the respondents supervisors and rank and file as to the extent supervisors practices and correlating leadership behaviors and organizational commitment. The Output expected are more effective leadership behaviors of supervisors, more committed employees and more productive organization.

## 2. RELATED LITERATURE

According to Stanton (1982), it is absolutely essential for managers and employees to maintain the continuous interaction with each other. Managers of necessity must always be informed about current operations in their departments. If anticipated problems arise, managers will need to take corrective action at once. Employee will frequently require specific assistance and support, which only the managers can provide. Managers should always be available and through their attitude, approachable by employees. The managers should always that of helpful coaches to whom people can readily come for assistance in handling job difficulties as they arise. The manager and employees have mutual trust and respects are present, if there is openness and leveling between two parties and if good communication exists, then a sound and manager employee relationship should result.

The manager leadership style is supportive, non-threatening and problem oriented. Caparas (1992) stated on his study that majority of Civil Service Commission leaders are effective based on Fiedler's Contingency Theory.

According to Kouzes (1987), leadership appears to be the art of getting others to want to do something that you are convinced should be done. "I think people deserve good leadership. Plas (1996) stated that persons centered leadership are uniquely suited to the U.S. workplace because it emphasizes individuality as much as teamwork and removes barriers so the real self come to work. The model not just focus on workers, it focuses on individual workers.

According to Lau (1996) the approach was to ask subordinates to describe their immediate supervisor using their survey item. Two factors emerged as important general dimension of leadership consideration and initiating structure. Consideration covers a wide variety of behaviors related to the treatment of people, acting in friendly and supportive manner in looking out for their welfare. Finding time to listen to subordinates problems and consulting with subordinates on important issue before making decisions are good example. Initiating structure is a task related dimension. Guchait (2007) indicated that employer provided HRM practices do not directly result in high employee commitment through perceived organizational support.

Donlon (2007) mentioned that as anyone who ever defined a strategy and tried to get an executive team on board knows, establishing the right meeting behavior is a critical ingredient to success. It can often be a much tougher challenge that establishing the right meeting content and process (a topic addresses in the last months columns) because executing strategy involves both taking action and implementing change. If leadership and team behavior are not conducive to change, the organization will continue to stay mired in the status quo.

Martinez (1973), states that leadership is an art of coordinating and motivating individuals and groups to achieve desire goals. Leadership means influencing people to cooperate in the attainment of some goals which they come to find desirable.

According to Amador (2007), leaders have to make tough decisions in order to lead effectively and often. They are afraid that those decisions will not always be popular. And thus they fall into the same old trap of populist decision. As we observe, leaders and situations one realizes that in the end, the genuine leader has no choice but to make decisions good for the majority and not just any special group. This may cause him to be un popular times. Maybe a lot of time, but in the end, he will gain one thing which is more important respect.

According to Gutierrez and Pura Jr. (1994), the leader plans the work of those for whom he is responsible. He organizes activities; he motivates them and integrates their activities and audits the result.

Capinpin's (1993) study was entitled "Leadership Behavior of Administrators in the Department of Labor and Employment Central Office". In the light of the findings of this study the following conclusions were arrived at the cluster heads were perceived by their middle managers and subordinates as high level in initiating structure and moderate level in consideration dimension. They perceived cluster heads as affective leader. Thus leaders

and procedural clarity because they are both people and task oriented leaders. The directors were perceived by their middle level in consideration dimension. They perceived directors as effective leaders. This type of leader behavior creates organization with harmony, intimacy and procedurally clarity.

The study of Soriano (2004), determined the relationship of ordained ministers leadership behavior to job performance in terms of preaching, teaching, and administration. The relationship between leadership behavior and job performance was likewise determined in terms of age, education, and number of years of the respondents. The study found out the ordained ministers had qualities of transformational leadership being charismatic and intellectually considerate rather than being transactional. The ordained ministers rated highest in their administrative functions, followed by teaching and preaching.

The study of Garcia (1995) primarily aimed to find out the leadership behavior of the administrators are described in the areas of effectiveness of instruction, building a productive unit, providing climate professional service and utilization of resources and services. The following conclusions were drawn on the base of the findings of this study, age, civil status, work status, educational qualifications, and length of teaching experience of faculty members did not make significant difference in their perception on the leadership behavior of administrators of selected school of business. Agarwal (1999) mentioned that one factor that is clearly recognized to have a powerful influence on salesperson’s attitudes is the leadership behavior of his/her managers.

### **3 METHODS AND PROCEDURES**

This study employed the descriptive survey method with the use of the questionnaire/checklist as the major instrument for gathering data. According to Best (1998), the descriptive method typically employs a survey or an assessment approach for its purpose is to collect information that permits one to discuss the characteristics of persons and their perceptions. Stratified sampling was used and it needed two (2) groups of employees – the supervisor and rank and file employees. In the stratified random sampling, the population is the first divided into a number of parts or ‘strata’ according to some characteristics, chosen to be related to the major variables being studied. The respondents of the study were composed of twenty (20) supervisors and thirty (30) rank and file employees of different qualifications according to age, educational attainment, position and other factors. A five-point scale was used taken from literature. The questionnaire was designed by the researcher and presented to doctorate professors for validation. The author requested approval from the company. The number of questionnaire was distributed based on the number of employees and supervisors who were permitted to participate.

### **4 PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA RESPONDENTS**

Table 1: Summary Table of Leadership Behavior of Supervisor and Rank & File Employees

	Supervisor	Verbal Interpretation	Rank	Rank &	Verbal Interpretation	Rank
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				File		
Transformational	3.78	Agree	1	3.94	Agree	1
Transactional	3.54	Agree	2	3.88	Agree	2
Laissez Faire	2.68	Partly Agree	3	3.33	Partly Agree	3

The table shows that most of the respondent supervisors (3.78) agree to practice transformational leadership compare to the rank and file response (3.94) that they are favor with transformational leadership. In terms of transactional leadership supervisors show (3.54) for the rank and file (3.88) was revealed. And in laissez faire (2.68) or partly agree and in rank and file attain (3.33).

Table 2: T-test results in comparing the Assessments of Supervisors and Rank & File of Supervisors' Leadership Behaviors

	Supervisor		Rank & File		Mean	Computed	VI
	WM	SD	WM	SD	Difference	T-Value	
Transformational	3.78	0.86	3.94	0.85	0.16	0.649	NS
Transactional	3.54	0.63	3.88	0.64	0.34	1.863	S
Laissez Faire	2.68	1.23	3.33	0.93	0.65	2.15	S
df = 48 tabular value at $\alpha_{.05} = 1.684$							

Comparison between the assessment of respondent supervisor & rank & file as to extent they practice leadership behavior. Table 2 shows the T-test results in comparing the assessments of supervisors and rank & file of supervisors' leadership behaviors. As shown in the table 2 there are significant differences in the assessments of supervisors and rank and file respondent as to the extent supervisors practiced transactional leadership and laissez faire leadership. This finding was supported by the computed t value of 1.863 for transactional and 2.15 for laissez faire which were greater than the tabular value of 1.684 with 48 degrees of freedom at .05 significance level.

Tabular data show that rank and file respondents have a more definite perception that their supervisors are practicing transactional leadership with a mean of 3.88 and laissez faire with a mean of 3.33 compared to the respondent supervisors' self-perception that they are practicing transactional with a weighted mean of 3.54 and laissez faire with a mean of 2.68.

Table 3: Level of Organizational Commitment Respondent Supervisor

	Strongly Agree	Agree	Partly Agree	Disagree	Strongly Disagree	
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Indicators	F	%	F	%	F	%	F	%	F	%	WM	VI	Rank
1. It would be hard for me to leave my department even if I wanted.	2	10%	9	45%	5	25%	1	5%	3	15%	3.3	Partly Agree	4
2. I would very happy to spend of my career to this department	1	5%	6	30%	9	45%	3	15%	1	5%	3.15	Partly Agree	5
3. I do not feel a strong sense of belonging to my department	0		2	10%	4	20%	8	40%	6	30%	2.1	Disagree	7
4. I do not feel like part of the family on my department	2	10%	3	15%	3	15%	7	35%	5	25%	2.5	Partly Agree	6
5. I would not leave my org. right now because I have a sense of obligation	2	10%	9	45%	8	40%	0		1	5%	3.55	Agree	3
6. The org. deserve my loyalty	8	40%	8	40%	4	20%	0		0		4.2	Agree	1
7. This dept. has a great of personal meaning to me.	6	30%	10	50%	4	20%	0		0		4.1	Agree	2
8. I owe a great deal to my organization	7	35%	8	40%	5	25%	0		0		4.1	Agree	2
Overall Mean= 3.38 Partly Agree													

The table shows that the respondent supervisors agree to organizational commitment. Indicator 5 or I would not leave my organization right now because I have a sense of obligation had a mean of 3.55. Indicator 6 or the organization deserve my loyalty had a mean of 4.2. Indicator 7 or this department has a great of personal meaning to me had a mean of 4.1 and indicator 8 or I owe great deal to my organization revealed a mean of 4.1.

While the following indicators recorded partly agree ratings, Indicator 1 or it would be hard for me to leave my department even if I wanted had a mean of 3.3. Indicator 2 or I would very happy to spend of my career to this department is 3.15 and Indicator 4 or I do not feel like part of the family on my department had a mean of 2.5.

However indicator 3 or I do not feel a strong sense of belonging to my department had a mean of 2.1 or disagree. In overall weighted mean 3.38 or partly agree which means that their organizational commitment is moderate.

Table 4: Results in Correlating Leadership Behaviors of Supervisor and Organizational Commitment

	Pearson r	Verbal Interpretation	Computed t-Value	Verbal Interpretation
Transformational	51	Moderate	4.08	Significant
Transactional	56	Moderate	4.64	Significant
Laissez Faire	35	Low	2.6	Significant
df		=		48
tabular value at $\alpha .05 = 1.684$				

As seen from the tabular results, correlating organizational commitment and leadership behavior show that it is moderately and significantly correlated to the leadership behavior styles: transformational leadership ( $r=.51$ ;  $t=4.08$ ); and transactional leadership ( $r=0.56$ ,  $t=4.64$ ). This finding was supported by the computed t values which were significant at .05 levels since they exceeded the tabular value of 1.684 with 48 degrees of freedom.

Tabular results also show that although the r value computed when correlating the laissez faire to organizational commitment was .35 and denotes low correlation, the t value computed was 2.6 which denote a significant correlation since it is greater than the tabular value of 1.684.

This finding indicates an existing but weak relationship between laissez faire and organizational commitment.

Based on the findings there is a significant relationship between leadership behaviors and organizational commitment.

## 5 SUMMARY OF FINDINGS

1. Leadership behavior of Respondents Supervisor & Rank & File as reflected by transformational Leadership.

1.1 As they overall weighted mean of 3.78 indicates that most respondent supervisor practice transformational leadership to a great extent.

1.2 As overall weighted mean of 3.94 indicates that most respondent rank & file perceived supervisors practice transformational leadership to a great extent.

Leadership Behavior of Respondents Supervisor & Rank & File as reflected by Transactional Leadership:

1.3 As overall weighted mean of 3.54 indicates that most respondent supervisor practice

transactional leadership to a great extent.

1.4 In overall weighted mean of 3.88 indicates that most respondent rank & file perceived supervisor practice transactional leadership to a great extent.

Leadership Behavior of Respondents Supervisor & Rank & File as reflected by Laissez Faire Leadership:

1.5 As overall weighted mean of 2.68 indicates that respondent supervisor practice Laissez

Faire leadership to a moderate extent.

1.6 In overall weighted mean of 3.33 indicates that most respondent rank & file perceived supervisors practice Laissez Faire Leadership to a moderate extent.

2. Comparison between the assessment of respondent supervisor & rank & file as to extent they practice leadership behavior.

There are significant differences in the assessments of supervisors and rank & file respondent as to the extent supervisors practiced transactional leadership ( $t=1.863$ ) and laissez faire ( $t=2.15$ ). However, no significant difference was observed as to the respondent's perception in transformational leadership ( $t=0.649$ ).

3. Organizational Commitment of Respondents Supervisor and Rank & File

3.1 Based on the overall weighted mean is 3.38 respondent supervisors are partly agreed of belonging to their organization.

3.2 In overall weighted mean is 3.45 that respondents rank & file is partly agree in belonging to their organization.

4. Correlating Leadership Behaviors and Organizational Commitment

There is significant relationship between organizational commitment and the following leadership behaviors: the transformational ( $r=.51$ ,  $t=4.08$ ); transactional ( $r=.56$ ,  $t=4.64$ ); and laissez faire ( $r=.35$ ,  $t=2.6$ ).

## 6 CONCLUSIONS

Based on the summary of findings the following conclusion has been arrived at:

1. As the result of the findings in leadership behaviors, according to the assessment of rank & file respondent they observed that most of the supervisors practice transformational leadership. Likewise the respondent supervisors practice transformational leadership as assesses by themselves.

2. The comparison of the assessments of supervisors and rank & file of supervisors' leadership behaviors is that rank & file respondents perceived their supervisors to be highly transactional leaders and likewise, tend to demonstrate non-leadership behaviors more often as compared to the self-appraisal of the supervisor respondents.

3. In terms of the level of Organizational Commitment of the respondent they possess moderate level as shown in the findings.

4. In terms of relationship between leadership behaviors and organizational commitment,

a significant correlation was noted.

## **7 RECOMMENDATIONS**

1. Supervisors should practice more transformational leadership in order for them to become effective leaders to their subordinates. Transformational leadership style can be a good tool for department heads or representatives, because each can provide some authority on his side of the problem. Working with other fellow members outside the organization produce better results.
2. The company should make their employees feel part of the organization by making programs that will involve socializing with other departments so that the employees will enjoy their work and the level of organizational commitment will become stronger. This will certainly minimize the risk of competition among themselves in the organization.
3. In terms of leadership behavior, the transformational is more effective to their subordinates because it is people-oriented. This means that employee must be given a regular teambuilding, workshop, seminar and training in order to contribute to the overall success of the organization. To be more effective, transformational leadership retreats should be held periodically throughout the year by an outside competent party. The critical transformational discipline activities revised by business executives during the retreats teach leadership participants how to correctly apply them in their organizations, increasing the success factors for the business.
4. The rank & file employee must feel that they belong to their organization by being more open to suggestions or comments coming from their superiors. Employee Empowerment is strongly recommended. Employee empowerment is a strategy and philosophy that enables employees to make decisions about their jobs. Employee empowerment helps employees own their work and take responsibility for their results. Employee empowerment helps employees serve customers at the level of the organization where the customer interface exists

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## Structural Relationships of Factors Influencing the Work Performance of Air Transport Business Organizations

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### ABSTRACT

This research studied the level of operating performance and casual factors which nowadays affect to the air transport business. By applying the resource-based view--RBV (Barney, 1991). The findings show that organizational competency (OC) significantly affected knowledge management (KM) and learning organization (LO) In addition, while KM significantly affected LO and organizational performance (OP) at extensive level. Finally, LO significantly affected OP at high level. Findings indicate that organizations ought to develop LO to accomplish competitive advantage and maintain high performance organization.

Keywords: Air Transportation, Air Carrier, Organization Performance

### 1. INTRODUCTION

Nowadays, “globalization” is regarded as information technology revolution which drives national economy and predominantly leads to national wealth and growth. Therefore, the country will step forward and take the leading role in international realm due to the high performance network which consists of the real network (telecommunication and transportation) and comercial networks. (Toffler, 1980)

Regarded as the first category, the air transport is significantly important to economic and social system development in national, regional, and global level. In addition, under

competitive pressure and challenges, there can be both opportunities and threats (e.g., opensky policy, high-pricing fuel, global economic crisis, natural disasters, terrorism, environmental and developmental issues and cutting-edged technology). These importantly lead to more aggressive competition and more multi-leveled players into airtransport business and enforces all firms to increase work efficiency as well as reduce costs for competitive advantage (International Labour Office Geneva[ILO], 2001; Yilmaz, 2008, p. 305). In terms of resource-based view--RBV, knowledgeable and multi-skilled human resources are essential since these lead to sustainable competitive advantage to firms (Barney, 1991, 2001; Grant, 1991).

In order to maintain superior performance to their competitors, many organizations necessarily establish the systematic and sustainable knowledge management and acquire the organizational competency which consists of both explicit knowledge and tacit knowledge that are embedded in their employees. To utilize collaboratively, the organization really needed to gain trust from them in sharing their knowledge and experience to colleagues and firm. (Darvenport & Prusak, 1998). Furthermore, the dynamic knowledge and learning and development will definitely expand the learning area which enhances performance and capability as well as leads to innovation society to their organization (Nonaka & Takeuchi, 2000; Phinaitrup, 2009). Therefore, in globalization age which learning organization mainly increases the organization, the management in air transport essentially consider how to buildup their organizational capability and competency so as to survive and efficiently serve to drastically dynamic circumstance. (Drucker, 1999, pp. 79-81; Phinaitrup, 2009; Senge, 1990; Teece, Pisano & Shuen, 1997; Yilmaz, 2008)

## **2. RESEARCH OBJECTIVES**

- 2.1 To study the level of operating performance of air transport business.
- 2.2 To identify factors which affects the performance of air transport business.

## **3. LITERATURE REVIEW**

This research was conducted based on resource-based view--RBV by Barney (1991) which focuses on connecting all relative factors into the study. The literature review were as following sequence (1) Resource-based View (2) Organization Competency (3) Trust in Knowledge Sharing (4) Knowledge Management (5) Learning Organization and (6) Organization Performance.

### **3.1 Resource-based View--RBV**

Theorists globally recognize RBV that it is indispensable to attain the predictable organizational performance and links firm resources to competency and sustained competitive advantage (Barney, 1991; Grant, 1991). this advantage has four attributes: it must be valuable; it must be rare; it must be inimitable and; it must be non-substitutable. These characteristics are regarded as fundamental to generate competitive advantage, opportunities for more profits, and long-term more excellent organizational performance (Barney, 1991). On the bottom line, firms can achieve setting goals by establishing strong interaction between human resources and organization from effective implementation and management (Barney, 2001; Grant, 1991). The following sections describe each of the constructs represented in the model.

### **3.2 Organization Competency--OC**

Competency is internally embedded in individuals and can drive them to perform their expected roles and responsibilities. This consists of knowledge, skill, and attributes that are necessarily required for achieving the satisfaction standard. This represents the strong experience and capable characteristics adequately to accomplishing given tasks (McClelland, 1993). Typically, organizational competency consists of three dimensional competencies (1) core competency which refers to characteristics that all employees should acquire in order to solidify the shared corporate values and desirable behaviors to achieve organizational goals (McClelland, 1973; Prahalad & Hamel, 1990) (2) functional competency which means knowledge, skill sets, and attitude which are necessary for employees in functioning their required roles and leads to high-quality and efficient performance to their organization (McClelland, 1973) and (3) personal competency which stands for knowledge, skill, attitude, and behavior that enable individual to perform more understanding performance from others and difficult to imitate. (Boyatzis, 2008; Prahalad & Hamel, 1990). Therefore, OC affected TKWS (Grever, 1999), KM (Davenport & Prusak, 1998) and LO (Drucker, 1999; Senge, 1994; Teece, Pisano & Shuen, 1997).

From literature review, there are three manifest variables, i.e. (1) Core Competency (2) Functional Competency and (3) Personal Competency

### **3.3 Trust in Knowledge Sharing--TKWS**

Trust is state of mind and behavior which individual believe in competency, methodology or approach to another one, institution, or organization. Lacking of organizational trust triggers to inefficient sharing of knowledge and organizational efficiency (Williamson, 1975). Undoubtedly, therefore, global leading firms always focus on how to build and sustain organizational trust. For example, General Electric [GE] promoted “GE work-out” campaign which aims to “build trust” by their executives’ welcoming voices from employees and also promoting idea suggestion throughout the organization in order to find out solutions to any issues (Chowdhury, 2005; Nonaka & Takeuchi, 2000). Especially, the effective two-way communication actually eliminates “bounded rationality” because this critical factor causes employees do not understand corporate vision, mission, and direction. On the other hand, it probably sets off the self-interested motives, non-integrity or “opportunism”. Really, both “bounded rationality” and “opportunism” are huge barriers to trust in knowledge sharing. Therefore, TKWS affected OP (Chowdhury, 2005; Nonaka & Takeuchi, 2000) and KM (Chowdhury, 2005; Davenport & Prusak, 1998).

From literature review, there are two manifest variables, i.e. (1) Bounded Rationality and (2) Opportunism

### **3.4 Knowledge Management--KM**

Knowledge management--KM is how to systematically and continuously manage knowledge asset – both tacit knowledge and explicit so as to establish the learning organization, knowledge exchange, and application in actual workplace. The organized KM provides staff to access the source of knowledge and enhance their capability solid enough to self-development as well as further self-study, improvement, and eventually innovation (Nonaka & Takeuchi, 2000).

KM process is the main mechanism for firms to gain and make use of such



knowledge. (Nonaka & Takeuchi, 2000; Sedera & Gable, 2006). Therefore, KM affected OP and LO (Drucker, 1999; Nonaka & Takeuchi, 2000; Phinaitrup, 2009).

From literature review, there are four manifest variables, i.e. (1) Knowledge Acquisition (2) Knowledge Retention (3) Knowledge Transfer and (4) Knowledge Use/Re-use

### **3.5 Learning Organization--LO**

Learning organization--LO is the firm where staffs can expand their capability in constantly creating their works and staff are supported in taking initiatives by their robust effort and inspiration. Primarily, it requires firms to be strengthened by efficient knowledge management which creates the learning environment. Employees can be assertive by accepted in different ideas and conditions. Also, they thoroughly comprehends issues in their firms and develop the holistic plan and effective implementation. Therefore, learning organization is influential to OP in a variety of dimensions (Chajnicki, 2007; Nonaka & Takeuchi, 2000; Senge, 1990; Teece et al., 1997) especially with public sector organizations (Phinaitrup, 2009).

Peter Senge (1990, pp. 31-32) and his associates explore five disciplines for establishing learning organization (1) shared vision which refers to the collaboration between corporate vision and individual vision that engages people to organization (2) team learning which means the collective learning through exchange and sharing among individuals to have a mutual agreement (3) personal mastery which stands for individual eagerness to learn new things as well as passion to increase their potential to strive for achieving goals. This can be regarded as starting point to be a learning organization (4) mental models which is individual way of thinking to consider, precisely draw hypothesis for any happenings or problems, and finally realize solutions for any changes and (5) systems thinking which refers to understanding in casual relationship among players and forces, and dynamic complexity of any problems they face, and eventually set proactive approach to serve such challenges. The last principle is recognized as the most important.

From literature review, there are five manifest variables, i.e. (1) Shared Vision (2) Team Learning (3) Personal Mastery (4) Mental Models and (5) Systems Thinking

### **3.6 Organization Performance--OP**

Organization Performance--OP refers to level of organizational achievement in completing tasks as setting goals. This is also the comparison between input and output reflecting to employees in terms of both financial or non-financial items. Since this is upon organizational behavior in utilizing capabilities and resources in achieving desirable output, firms needs the organization performance assessment which symbolizes fire alarm to let firms know the current situation prior to the final indicators—the summary of financial and accounting reports which is too late and shows only the past performance. Hence, indicators should consist of multi-dimensional items as both in quantitative and qualitative aspects. Only one-side approach cannot function properly and provide the holistic findings. This means that, the multiple criteria of organizational performance is widely used for both scholars and practitioners (Gibson, Ivancevich & Donnelly, 1997; Levy & Murnane, 2004)

From literature review, there are two manifest variables, i.e. (1) Productivity indicator and (2) Innovation indicator

## 4. RESEARCH METHOD

The researcher used mixed-method research approach in collecting data and analyze findings by applying both descriptive statistics (percentage, mean, and SD) and inferential statistics by PLS-Graph 3.0 (Chin, 2001)

### 4.1 Quantitative method

The 7-point Likert scale questionnaires (1 = strongly disagree; 4 = moderate; 7 = strongly agree) were distributed to 320 managements in airline companies which provide to carrier the passenger and cargo or related services in domestic or international transportation. The content of the questionnaire items are initially developed from thorough literature review. Data were analyzed through Structural Equation Modeling (SEM) to determine model causality using PLS-Graph 3.0 software (Chin, 2001).

### 4.2 Qualitative method

The researcher conducted the in-depth interview to identify factors which nowadays affect to the organizational performance of air transport business. The key informants were eight people who were experts in organizational management and human resources management.

## 5. FINDINGS

### 5.1 Data analysis

Table 1 revealed that the percentage of male respondents (53.4%) was closely similar to that of female one (46.6%). For age, it was seen that 34.4 % of all respondents were ranged between 45-49 years old. For working experience, it was found that 69.7 % of them had 20 years of service or more while 1.9 % of them had less than 10 years of service. For education background, 55.5 % of them held Master Degree whereas only 1.6 % of them graduated in below Bachelor's Degree.

Table 1: General Characteristics of the samples (n = 320)

		Number of respondents (NB)	Percentage of NB
Sex	Male	171	53.40%
	Female	149	46.60%
Age	< 40	14	4.40%
	40-44	43	13.40%
	45-49	110	34.40%
	50-54	78	24.40%
	> 54	75	23.40%
Education	Below Bachelor's Degree	5	1.60%
	Bachelor's Degree	131	40.90%
	Master's Degree	176	55.00%
	Above Master's Degree	8	2.50%
Responsibility	Marketing and Sale	61	19.10%
	Finance and Accounting	32	10.00%
	Human Resource	53	16.60%
	Operation	106	33.10%
	Other	68	21.30%

		Number of respondents (NB)	Percentage of NB
Position	Division Manager or Equivalent	147	45.90%
	Department Management or Equivalent	130	40.60%
	Director or Equivalent	43	13.40%
Working Year	< 10	6	1.90%
	10-14	34	10.60%
	15-19	57	17.80%
	20-24	97	30.30%
	> 24	126	39.40%

Table 2, on a seven-point scales, the average mean were highly extensive level on 4 keys factors of OC, KM, LO and OP (Mean = 5.14, 4.82, 4.78 and 4.95) and moderate level on TKWS (Mean = 4.37) and the standard deviation of OC, TKWS, KM, LO and OP were 0.77, 1.36, 0.91, 0.99 and 1.08 respectively.

On the basis of Table 2, it was found that loading was greater than 0.707 thresholds for all values. This means that indicators in all blocks could be accurately measured. All constructs displayed a composite reliability (CR) was between 0.911 and 0.983 which was higher than 0.60 threshold. The average variance extracted (AVE) was between 0.742 and 0.966 which was higher than 0.50 thresholds. This means that each construct has very well reflective indicators and could be used for accurate measurement in its own domain.

Table 2: Mean, SD, loading, composite reliability and average variance extracted.

Construct		Mean	SD	Loading	t-statistic	AVE	CR
OC	Organization Competency	5.14	0.77			.0774	0.911
CorC	Core Competency	5.08	0.76	0.844	43.158		
FunC	Functional Competency	5.07	0.90	0.907	79.829		
PerC	Personal Competency	5.27	0.92	0.887	76.506		
TKWS	Trust in Knowledge Sharing	4.37	1.36			0.878	0.935
BouR	Bounded Rationality	4.40	1.42	0.962	26.879		
Oppt	Opportunism	4.19	1.63	0.911	20.049		
KW	Knowledge Management	4.82	0.91			0.742	0.920
KW-A	Knowledge Acquisition	4.82	0.90	0.821	39.493		
KW-R	Knowledge Retention	4.64	1.10	0.844	48.802		
KW-T	Knowledge Transfer	4.76	1.13	0.916	134.009		
KW-U	Knowledge Use/Re-Use	5.05	1.08	0.862	52.509		
LO	Learning Organization	4.78	0.99			0.824	0.959
ShaV	Shared Vision	4.77	1.09	0.890	71.974		
TeaM	Team Learning	4.75	1.21	0.904	88.540		
PerM	Personal Mastery	4.76	1.07	0.922	102.853		
MenM	Mental Model	4.86	1.02	0.913	76.542		
SysT	Systems Thinking	4.77	1.07	0.910	87.062		
OP	Organization Performance	4.95	1.08			0.960	0.983
Prod	Productivity	4.92	1.04	0.984	447.752		
Inno	Innovation	4.97	1.16	0.982	510.872		

## 5.2 Outcome of structural equation module analysis

Fig. 1 and Table 3 revealed that by overall, LO (TE = 0.759) was the most affecting factor for OP of air transport business and was followed by KM (TE = 0.645), OC (TE = 0.594), and TKWS (TE = 0.153). For direct effect, LO (DE = 0.759) was the most affecting factor and was followed by KM (DE = 0.157) and TKWS (DE = 0.030). For

indirect effect, OC (IE = 0.594) was the most affecting factor and followed by KM (IE = 0.488) and TKWS (IE = 0.123). From the analysis, it revealed that 4 factors had a joint effected toward the variables with value of OP over 0.79. However, the empirical data did not confirm that OC affected TKWS ( $\beta = 0.029$ ) and TKWS did not affected to the OC ( $\beta = 0.030$ ).

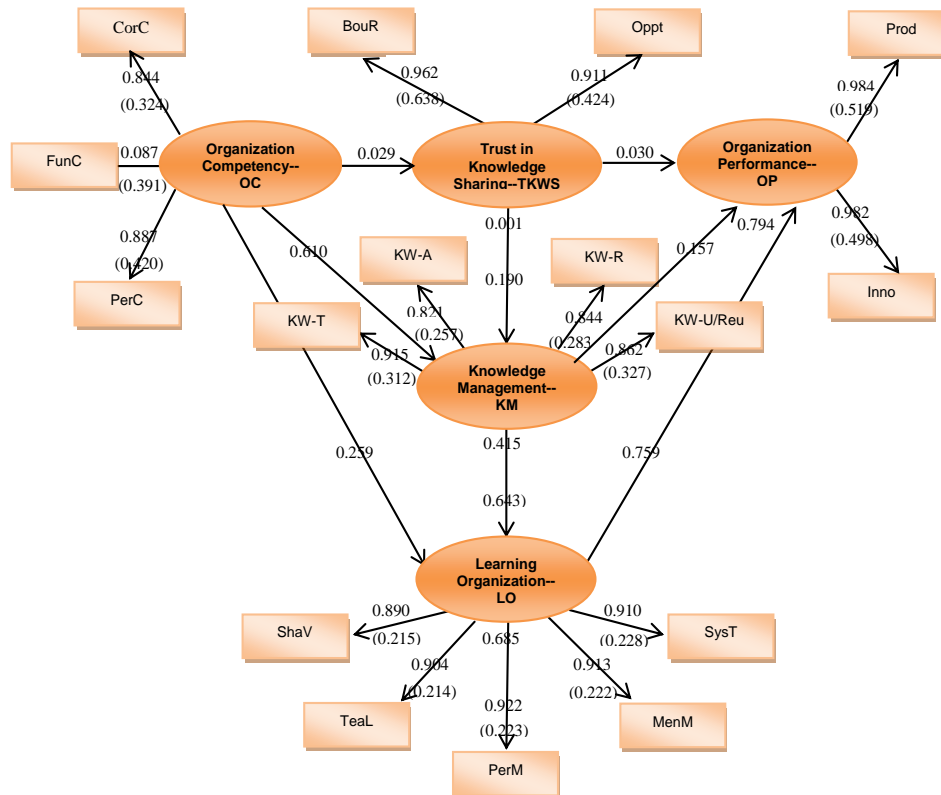


Fig 1: Outcome of structural equation module analysis

Table 3: Affect of antecedent variable toward endogenous variables

Latent variables	R <sup>2</sup>	Effect	Antecedent			
			OC	TKWS	KM	LO
OP	0.794	DE	0.000	0.030	0.157**	0.759**
		IE	0.594	0.123	0.488	0.000
		TE	0.594	0.153	0.645	0.759
LO	0.685	DE	0.259**	0.000	0.643**	N/A
		IE	0.396	0.122	0.000	N/A
		TE	0.655	0.122	0.643	N/A
KM	0.415	DE	0.610**	0.190**	N/A	N/A
		IE	0.006	0.000	N/A	N/A
		TE	0.616	0.190	N/A	N/A
TKWS	0.001	DE	0.029	N/A	N/A	N/A
		IE	0.000	N/A	N/A	N/A
		TE	0.029	N/A	N/A	N/A

Remark: DE = direct effect IE = indirect effect TE = total effect N/A = not applicable

### 5.3 Factorial validity

Table 4, it was found that  $\sqrt{AVE}$  was the value of a number in the diagonal line and had a greater value than the number in the same column. The value in any column (called column variable) showed cross construct correlation. This correlation was a relationship

between latent variables. This means that measurements for each construct can measure the variation in its own without having to measure the variation in other constructs as well.

The overall quality of the model, it can be seen that the model displayed a value of  $R^2$  between 0.001 and 0.794. The mean was 0.474, which was higher than 0.20. This means that the structural equation had predictive quality at moderate level. The structural equation satisfied the fit index; that is, Goodness of Fit (GoF) was equal to 0.630 ( $\text{GoF} = 0.474 * 0.837 = 0.630$ ). This indicates that the model displayed predictability at a good level. The value of Average Communality was equal to 0.837. This means that the construct, on average, reflected their nature through their indicators at a good level. The model displayed an Average Redundant value equal to 0.410. This means that independent variables (construct) in each structural equation could portray their sound influence through their dependent variable to indicators of that block. In summary, the quality of the model was at a good level. To sum up, the SEM of this research is at high quality.

Table 4: Quality of structural model and measurement model

Construct	cross construct correlation					R <sup>2</sup>	AvCommun	AvRedundand
	OC	TKWS	KM	LO	OP			
OC	0.879					0.000	0.774	0.000
TKWS	0.029	0.937				0.001	0.878	0.007
KM	0.615	0.208	0.861			0.415	0.742	0.308
LO	0.655	-0.006	0.802	0.907		0.685	0.824	0.565
OP	0.686	0.058	0.772	0.885	0.982	0.794	0.966	0.768
average						0.474	0.837	0.410

## 6. CONCLUSTION AND RECOMMENDATIONS

### 6.1 Conclusion

In conclusion, the result of quantitative method was significantly relative to that of qualitative one. The research results implicate that OC and KM especially LO had significant effect to the performance of air transport business. The organizations ought to develop LO to sustainably competitive advantage and high performance organization. The study could be concluded that the resource of the firm would lead business to higher competency and inturn to strengthen the competitiveness of the organization.

### 6.2 Recommendations

#### Management implications

1. Measuring personal characteristics, it was found that most respondents were management who were in age of 45 or more yers old (82.2 %) and it was indicated that personal competency affects work efficiency at extensively high level. Therefore, the organization necessarily considers employee retention and succession planning.

2. From research findings, it could be seen that learning organization affects work efficiency at the highest level; consequently, the management should develop mid-to-long term strategy in order to build up the learning organization.

#### Theoretical implications

1. The research should be further developed by applying SEM to air transport in other countries so as to study and understand in different contexts as well as impacts from social and cultural dimensions.

2. SEM from this research should be applied to other types of business in order to comprehend common and different context.

## 7. ACKNOWLEDGMENTS

I would like to use this opportunity to express our sincere appreciation to our dissertation advisors associate professor Dr.Napaporn Khannapa, associated professor Dr. Montree Piriyaikul and associated Nipa Rungruangwuddikrai who have sacrificed their precious time and valuable efforts in reviewing this research works and also, in fulfilling any missing points and related discrepancies for the completeness of this research.

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## The Structural Relationship of Factors Affecting Work Effectiveness and Intention to Stay of Large Commercial Bank's Staff

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### ABSTRACT

This research aims to study the structural relationship of perceived shared value which affected to the intention to stay and effectiveness in staffs were 500 employees who work in four major banks in Thailand. The researcher collected data by questionnaire and calculated the mean, S.D. and analyzed the structural equation modeling by the statistical software. From studying the structural relationship model, the researcher found that the level of perceived shared value, organizational trust, organizational commitment, cooperation, job satisfaction, Effectiveness and intention to stay were extensively high.

Keywords: GEBF 2012, Effectiveness, Intention to Stay

### 1. INTRODUCTION

According to the result of survey in 2010-2011 by Hewitt Associates (Thailand) Ltd, to 189 business firms in Thailand and South-east Asian, the average of employee turn-over rate was 8.0 %. The major sectors were (24.9 %), financial services (12.2 %), and IT services (12.0%). As country-wise, it was found that Vietnam had the highest turnover rate (14.8 %), followed by Malaysia (13.0 %), Singapore (10.0 %), and the Philippines (9.5 %). For Thailand, it was ranked as the fifth country (8.0 %). One remarkable finding from this survey was that the management of most companies had continuously implemented a wide variety of interventions in order to decrease the turnover rate as well as sustain employee commitment. Furthermore, one of key successful factors was employee recognition as Figure 1.



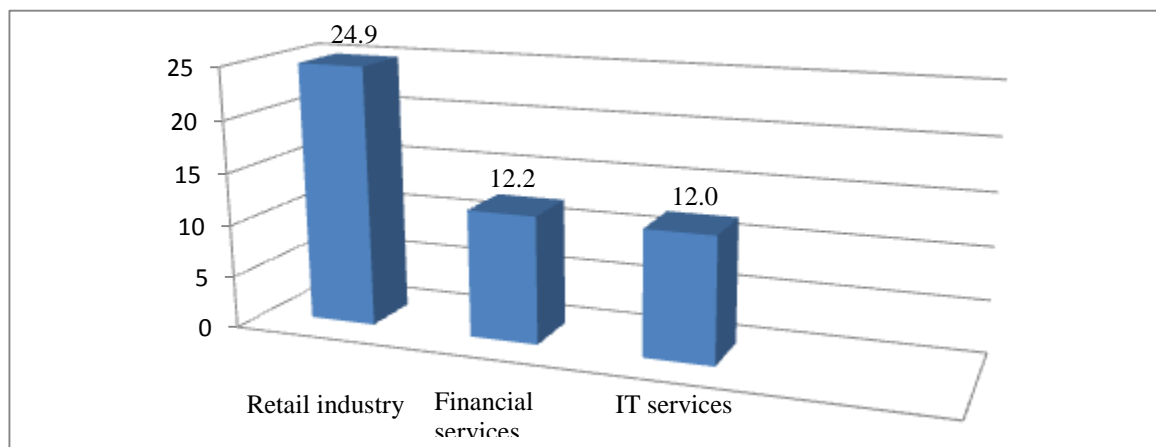


Figure 1: Top three industries of the highest turnover rate

In 2015, the Association of Southeast Asian Nations (ASEAN) will transform to the ASEAN Community which is comprised of three main pillars, namely ASEAN Political Security Community (ASC), ASEAN Economic Community (AEC), and ASEAN Socio-cultural Community (ASCC). For the second, in particular, AEC envisages to single market and single production base which focuses on free movement of goods, services, investment, and labor. Also, the ultimate goal and framework towards agreement on free trade had been established to facilitate the movement.

Since the free movement within region had been more easily taken place, the workforce can freely move from one country to another. Furthermore, there will be the loss of skilled intellectual and technical labor which causes from significant drivers--organizational trust, employee commitment, satisfaction in job profile, reward, career path, colleagues or prospect for the better well-being in other countries. Therefore, most organizations will have spent a large number of money in investing to human resource maintenance e.g. replacement recruitment, training and development to newcomers so that they can perform roles as effectively as the resigned staff, etc. Moreover, they necessarily reserves extra budget to setting up additional motives such as special merit increase, bonus, incentive pay, profit sharing, or employee stock option programs, etc. so as to retain employee to contribute to company through relentless efforts and effective and efficient practices.

According to the result of survey by JobStreet (Thailand) Co., Ltd. for job-changing trends in 2011 from 1,400 participants, it was found that, as shown in **Figure 2**, main factors for intention to stay of employees were satisfied to following items-- supervisors and co-workers (29.7 %); organizational culture and working environment (22.0 %); job assignment (20.5%); welfare and benefits (18.3 %), and salary (9.5%).

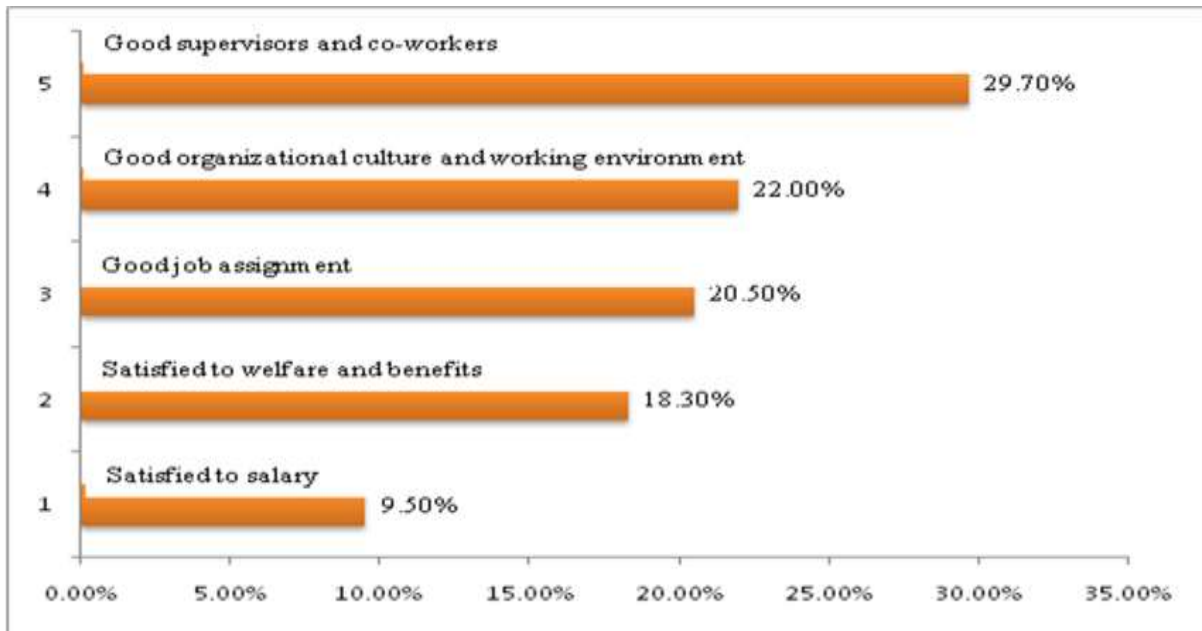


Figure 2: Main factors for intention to stay of employees

From literature review, the researcher found that the banking and financial services has been built for many years and gained organizational trusts from the clients. Furthermore, branches are located throughout country; therefore, banks become the main sources of savings and investment funds in Thailand and considerably connect to Thailand's economy. In addition, commercial banks are effective channel for the government in setting monetary policy since all financial mechanisms such as to increase or decrease national reserve funds, etc. are deployed via commercial banks in order to control the and stabilize national economy

For perceived shared value, it is regarded as one of essential factors to drive collaboration and work effectiveness in workplace. According to the year 2011 annual report of Siam Commercial Bank (Year 2011 annual report for corporate governance, Stock Exchange of Thailand, 2011), the core values consist of justice, integrity, reliability, and trust. All employees strongly believe in integrity to peers and clients, being trusted in verbal commitment and behaviors, taking action with responsibilities on behalf of the bank even though all decisions are from individual. With these missions, all employees are important to build and sustain dignity to the bank and this is fundamental to bank's success from the past to future.

To prevent these issues, the researcher focused on studying the appropriate structural relationship of perceived shared value which affects to employee satisfaction leading to employee retention in major banks. Remarkably, this will aim to competitive advantage and sustainable growth in Thailand.

This research aims to study level of work effectiveness and intention to stay of employees in large commercial banks in Thailand and structural relationship of perceived shared values, organizational trust, cooperation, job satisfaction, and employee's intention to stay which significantly influence to work effectiveness and intention to stay

## 2. THEORETICAL FOUNDATION AND FRAMEWORK

The organizational theory which was mainly used in this research to study the structural relationship of perceived shared value affecting to employee's intention to stay was McKinsey's 7-S Model (7-S Model) by Peter and Waterman (Peter and Waterman, 1980). In this theory, the organizational effectiveness was caused by systematically interconnected seven elements strategy (corporate strategy), structure (organizational structure), system (operational system), staff (human resources), skill (competency), style (management style), and shared values (corporate values). All can be divided into two categories: hard skills (strategy, structure, and system) and soft skills (staff, skill, and style).

To sum up, all seven factors are significantly interrelated then need for mutual changes and alignment as McKinsey's 7-S Model in Figure 3.

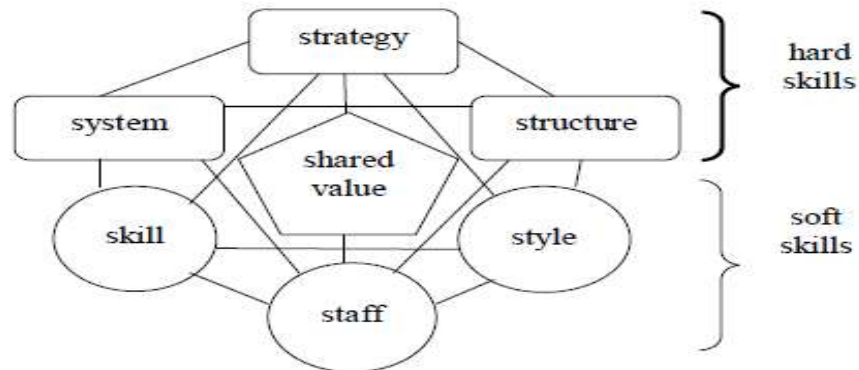


Figure 3: McKinsey's 7-S Framework

According to research on studying shared values which affect to employee commitment in banking employees, indicated that the participants had the high level of employee commitment, shared value, and cooperation, Furthermore, the age factor had significantly affected to employee commitment. Additionally, working position factor had significantly affected to employee commitment in driver of intention to stay. Next, compensation and reward system had significantly affected to employee commitment in driver of trust to corporate goals and shared values. Furthermore, organizational culture in driver of team-working had significantly affected to employee commitment in driver of intention to stay and commitment to contribute to organization. In conclusion, the overall employee commitment was significant. Also, the belief in corporate goals and shared values in driver of commitment to contribute to organization were significant

Kaye and Evans (2004) conducted research to investigate the employee retention and found that top three influential factors were (1) exciting and challenging works (2) opportunities for career growth, learning and development (3) high-quality co-workers

From understanding current situation and problems from review to theory and previous research, this leads to the research framework for studying structural relationship model of factors affecting for work effectiveness and intention to stay: a context of large commercial banks as Figure 4.

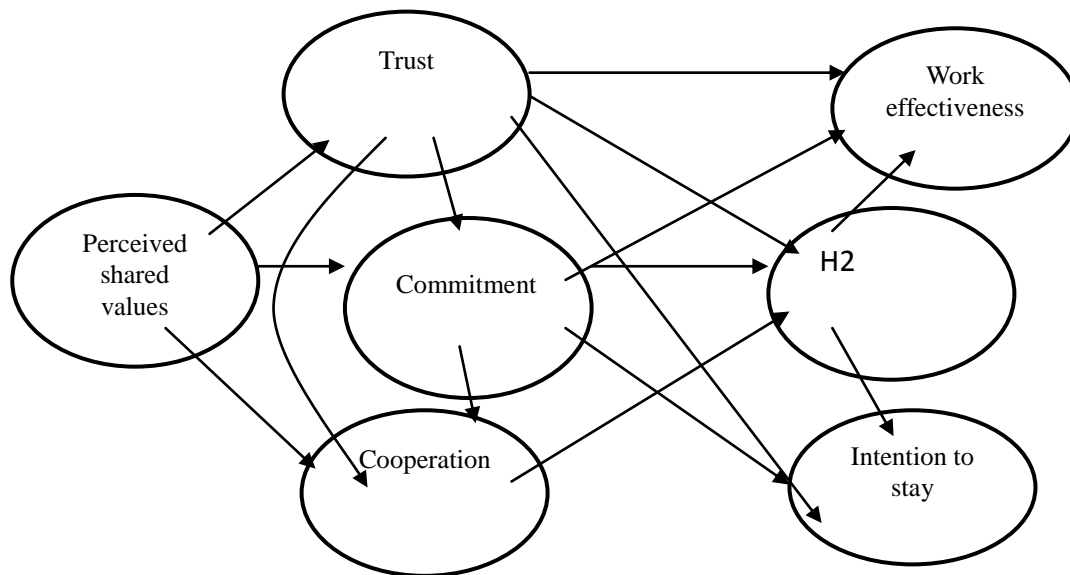


Figure 4: Research framework

### 3. RESEARCH METHODOLOGY

#### Quantitative approach

The researcher developed the questionnaire and metric, distributed questionnaire, interpreted data in descriptive statistics, and developed structural equation model – SEM. Next the researcher discussed the findings and gave recommendations. Since this research is regarded as multivariate analysis by SEM, the researcher set the standard for factor at very good level. Also, the researcher identified the number of sample as Comrey and Lee (Comrey & Lee, 1992); therefore, the participants in this method were 500 staffs from four large commercial banks.

#### Qualitative research

The researcher conducted the in-depth semi-structured interviews to 12 managements who are branch manager and above levels and have 10 or more years of service because they are key people to provide insights for perceived shared values in sophisticated level. The questions were related to the structural relationship model of factors affecting for work effectiveness and intention to stay. Next, the researcher verified the interview content by triangulation (Denzin, 1970), discussed key issues and provided suggestions for further study.

### 4 RESULTS

Table 1. Mean and SD

Construct	Mean	S.D	Result
Perceived shared values	3.95	0.46	Very good
Organizational trust	4.29	0.42	Very good
Organizational commitment	4.06	0.52	Very good
Cooperation	4.33	0.40	Very good
Job satisfaction	3.96	0.46	Very good
Work effectiveness	4.24	0.46	Very good

Intention to stay	3.81	0.95	Very good
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According to table 1 which illustrated the mean and SD of perceived shared values, Organizational trust, organizational commitment, cooperation, job satisfaction, work effectiveness, and intention to stay, the top three were cooperation (4.33), organizational trust (4.29), and work effectiveness (4.24), respectively.

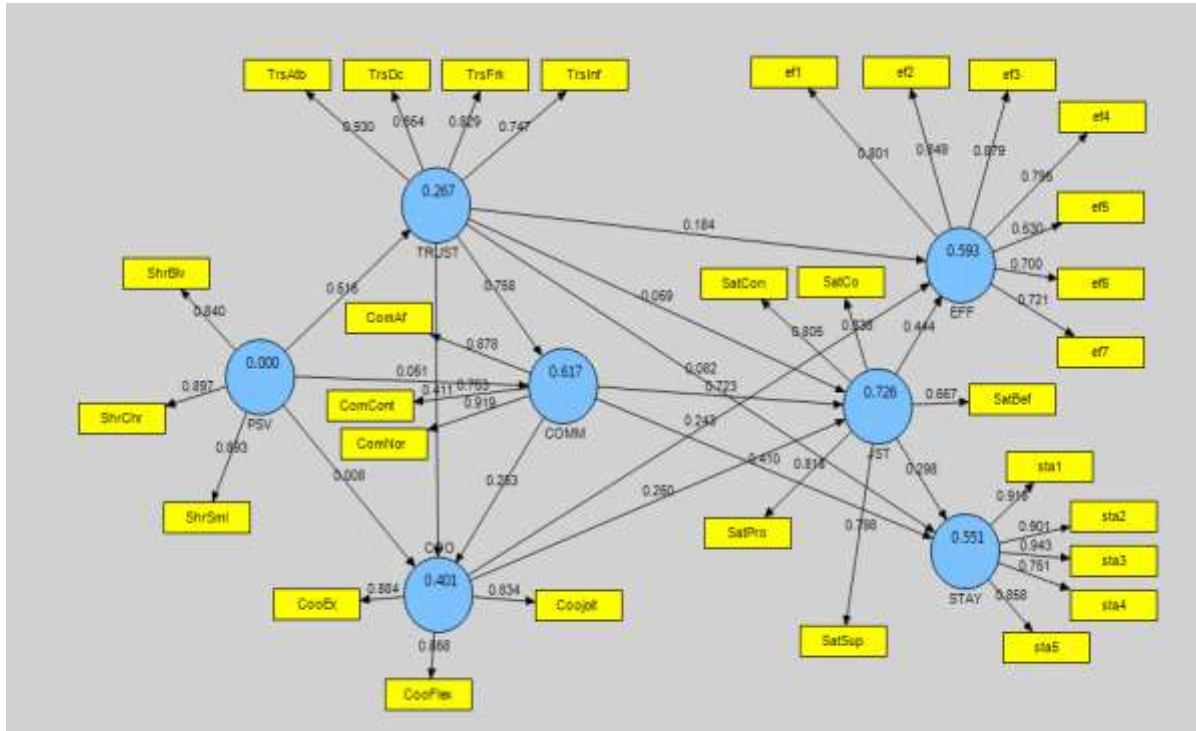


Figure 5. Structural relationship model of factors affecting for work effectiveness and intention to stay

Table 2. Result of analysis for primary variables which affects to dependent variables and internal variables

Endogenous variable	R <sup>2</sup>	Effect	Antecedents				
			PSV.	Trust	Commitment	Cooperation	Satisfaction
Effective	0.593	DE	0.000	0.184**	0.000	0.243**	0.444**
		IE	0.381	0.204	0.327	0.107	0.000
		TE	0.381	0.388	0.327	0.350	0.444
Intention to stay	0.551	DE	0.000	0.082	0.410	0.000	0.298**
		IE	0.066	0.503	0.215	0.077	0.000
		TE	0.066	0.585	0.625	0.777	0.298
Satisfaction	0.726	DE	0.000	-0.059	0.723**	0.260**	N/A
		IE	0.656	0.547	0.062	0.000	N/A
		TE	0.656	0.490	0.785	0.260	N/A
Cooperation	0.401	DE	0.008	0.411	0.253**	N/A	0.260**
		IE	0.138	0.192	0.000	N/A	0.000
		TE	0.146	0.603	0.253	N/A	0.260
Commitment	0.616	DE	0.051	0.758**	N/A	0.253	0.723
		IE	0.000	0.000	N/A	0.000	0.000
		TE	0.051	0.758	N/A	0.253	0.723

Trust	0.267	DE	0.516**	N/A	0.758	0.411**	-0.059
		IE	0.000	N/A	0.000	0.192	0.610
		TE	0.516	N/A	0.758	0.603	0.551

According to figure 5 and table 3, it was found that PSV, TRUS, COM, COO, and JST had significant effects to EFF and TRUS and COO had effects at the highest level both directly and indirectly whereas JST had only direct affect and PSV and COM had only indirect affect. Next, as for STAY, it could be seen that PSV, TRUS, COM, COO and JST have significant effects and TRUS and COM had effects at the highest level both directly and indirectly while PSV had only indirect effect and COO had only direct effect.

For COO, it was found that PSV, TRUS, and JST had affects to COO. In particular, both PSV and TRUS had at the highest levels since these had both direct and indirect effects whereas COO and JST had only direct effects. In addition, it was seen that PSV, TRUS, COO and JST had direct effects to COM. Moreover, it could be seen that PSV, COM, COO, and JST had significant affects to TRUS. Especially, both COO and JST had at the highest levels since these have both direct and indirect effects while PSV had only indirect effect.

Table 3. Result of analysis for discriminant validity

Construct	CR	AVE	R <sup>2</sup>	Construct							
				PSV	TRUS	COO	COM	JST	EFF	STAY	
PSV	0.909	0.769	0.291	<b>0.876</b>							
TRUS	0.872	0.634	0.000	0.517	<b>0.796</b>						
COO	0.897	0.743	0.332	0.332	0.613	<b>0.862</b>					
COM	0.888	0.728	0.596	0.442	0.784	0.587	<b>0.853</b>				
JST	0.890	0.620	0.706	0.434	0.668	0.642	0.828	<b>0.787</b>			
EFF	0.926	0.643	0.582	0.463	0.642	0.644	0.659	0.716	<b>0.802</b>		
STAY	0.943	0.769	0.534	0.454	0.602	0.379	0.721	0.692	0.594	<b>0.877</b>	

As table 3, discriminate validity refers to validity of metric in each construct and can be measured individually. The key point is to consider the  $\sqrt{AVE}$  value in each array. If metric of which construct gains higher value of  $\sqrt{AVE}$  than the value of cross construct correlation in other constructs in array, it means that that construct has discriminant validity. For construct reliability, it is considered the composite reliability (CR) that are required to be higher than 0.60. As shown in the table, it was found that the value of  $\sqrt{AVE}$  in target array was higher than the value of cross construct correlation in other constructs in the same arrays. It means that the correlation of each metric in the same variable is higher than that of different variables. Therefore, it can be implied that there were discriminate validity in all constructs and, since CR of all were higher than 0.60 as well as R<sup>2</sup> was higher than 0.20, all metrics had construct reliability.

Table 4. Result of analysis for quality of structural relationship

Construct	Average communality	Average redundancy	R <sup>2</sup>
Perceived shared values (PSV)	0.7595	0.0000	0.0000
Organizational trust (TRUS)	0.6437	0.1999	0.3106
Cooperation (COO)	0.7345	0.2997	0.4081
Organizational commitment (COM)	0.7705	0.5048	0.6551

Job satisfaction (JST)	0.6243	0.4632	0.7420
Work effectiveness (EFF)	0.6467	0.3769	0.5827
Intention to stay (STAY)	0.7982	0.4555	0.5706
Average	0.7111	0.3833	0.5449
GoF (goodness of fit)	0.622		

For quality of factors, the researcher used  $R^2$  in order to consider which level primary factors significantly affect variables and how many average communality were in each. The average communality is used to explain how construct reflects to average redundancy and whether the independent-variable construct can reflect to other dependent-variable construct. For goodness of fit (GoF), it is used to represent at which level SEM affects to all constructs. Typically, the GoF should necessarily be high to significantly relative to  $R^2$ .

From table 4, it was seen that the average communality was ranged between 0.6243 – 0.7982. This means that endogenous variables were relatively significant to constructs. Furthermore, average redundancy was ranged between 0.1999 – 0.5048 and that of perceived shared values was lowest score. This implies that construct which were independent variables in SEM significantly affected to dependent variables. For  $R^2$ , it could be seen that the average was between 0.3106 – 0.7420 and this was high but acceptable since this was higher than 0.25. At overall, SEM definitely reflected to constructs as GoF was extensively high (0.622).

Table 5. Comparison of results between quantitative and qualitative methods

Research hypothesis	Result	
	Quantitative	Qualitative
H1 Perceived shared values affects organizational trust	Confirmed	Confirmed
H2 Perceived shared values affects cooperation	Not confirmed	Confirmed
H3 Organizational trust affects cooperation	Confirmed	Confirmed
H4 Perceived shared values affects organizational commitment	Not confirmed	Confirmed
H5 Organizational trust affects organizational commitment	Confirmed	Confirmed
H6 Organizational commitment affects cooperation.	Confirmed	Confirmed
H7 Organizational trust affects job satisfaction	Not confirmed	Confirmed
H8 Organizational commitment affects job satisfaction	Confirmed	Confirmed
H9 Cooperation affects job satisfaction	Confirmed	Confirmed
H10 Organizational trust affects work effectiveness	Confirmed	Confirmed
H11 Cooperation affects work effectiveness	Confirmed	Confirmed
H12 Job satisfaction affects work effectiveness	Confirmed	Confirmed
H13 Organizational trust affects intention to stay	Not confirmed	Confirmed
H14 Organizational commitment affects intention to stay	Confirmed	Confirmed
H15 Job satisfaction affects to intention to stay	Confirmed	Confirmed

## 5 CONCLUSION AND RECOMMENDATIONS

According to research findings, as for structural relationship model of factors affecting for work effectiveness and intention to stay for employees at four large commercial banks, at the 0.01 level of significance, the perceived shared value affected organizational trust, organizational commitment, cooperation, job satisfaction, work effectiveness, and intention to stay. This implies that in order to retain the potential employees, the mutual perception towards organizational direction and policies are

importantly established via perceived shared values. Moreover, the company necessarily gains trusts from all employees by following methods: sharing information; building positive perception towards organization; reviewing job description; implementing the effective performance management system; developing career development plan and talent management; creating coaching culture; and building the team synergy, etc. These definitely support building employee retention and eventually sustain organizational growth.

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**AN ANALYSIS OF WOMEN EMPLOYEES STRESS:  
AN EMPIRICAL STUDY WITH REFERENCE TO  
TEACHING PROFESSIONALS IN INDIA**

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**ABSTRACT**

A United Nations report labeled job stress as “the twentieth century disease” The frightening reality is that “No one is immune to stress”, for it can affect anyone. Stress in the workplace, is due to the inter-connected, competitive and profit-driven organizational culture, these features along with “round-the-clock” connectivity through cell phones and computers also add to stress levels. The rate of faculty attrition in self-financing colleges (Arts, Science& commerce, Engineering Business Administration and Computer Application is conservatively estimated at 5% to 10% per annum. In reality it is much higher, as this is a confidential and sensitive issue, there is not much information available. In private schools the rate of teacher attrition is conservatively estimated at 7% to 8% per annum. The objective is to identify the various factors which cause stress in higher educational institutions and schools. The sample size is 1033 and the sampling technique is convenience method. The finding of the research is based on the problem of the study.

Keywords: Stress, Teacher, Professional, Institutions, Underpaid, Work pressure etc.,

**1..INTRODUCTION**

Stress impacts everyone in the workplace. Irrespective of the kind of work a person does his economic back ground or his age no one is immune from stress. It affects are health and well being as well as the quality of our family life. The WHO (World Health Organization) says that stress is a “Worldwide Epidemic”. A United Nations report labeled job stress as “the twentieth century disease” The frightening reality is that “No one is immune to stress”, for it can affect anyone. Stress in the workplace, is due to the inter-connected, competitive and profitdriven organizational culture, these features along with “round-the-clock” connectivity through cell phones and computers also add to stress levels.

Stephen Robbins (2003) states that, stress is associated with constraints and demands. The former prevents the employee from doing what he desires. The latter refers to the loss of something desired very much by the employee. Two conditions are necessary for potential stress to become actual stress. There must be uncertainty over the outcome and the outcome must be important. Work in the twenty-first century is like raising a baby who demands everything at this very moment. Technology cries out at us though

computers, cell phones and other gadgets. This invasive technology makes it hard for the employee to detach from work at home. Starting in the late 1970s women began going out to work and now represent 34% of workers worldwide. Damayanti Datta (2006), states that for every five men there is one woman who works in an income generating activity in urban India today. Dual career households mean the latest household gadgets, fashionable clothes, foreign vacation, and life in posh apartments and children in prestigious schools.

This lifestyle also means stress, tension and exhaustion for both the spouses. For many working couples parenthood means guilt, stress and more stress, stress at the workplace along with stress at home creates a “double stress cocktail” which has adverse effects on the husband, wife and the children. In view of the paucity of related data in Indian scenario, we have to refer to data from USA and Britain. The American Institute of Stress estimated in 2001 that stress costs organization \$300 Billion in healthcare. The Confederation of British Industry report (1993), states that, stress-related mental illness is responsible for the loss of 80 million working days. The Mind survey (2005) estimates that approximately 30% -40% of all sicknesses and absenteeism is attributable to mental and emotional disturbance among employees at workplaces.

### **STATEMENT OF THE PROBLEM**

The prominent factor is stress experienced by faculty in self-financing colleges and private schools Low salary shabby, overcrowded classrooms, financial stringency, the demands of the spouse, in-laws, children, parents, siblings, and; certain compulsory religious and family commitment; create off-the-job stress for the teachers. The rate of faculty attrition in self-financing colleges (Arts, Science & commerce, Engineering Business Administration and Computer Application is conservatively estimated at 5% to 10% per annum. In reality it is much higher, as this is a confidential and sensitive issue, there is not much information available. In private schools the rate of teacher attrition is conservatively estimated at 7% to 8% per annum.

### **OBJECTIVES OF THE STUDY**

To identify the various factors which cause stress in higher educational institutions and schools.

## **2..REVIEW OF LITERATURE**

**David Friesen and Mary Jo Williams (1985)**, state that major findings showed that four identifiable job-related factors accounted for a significant part of teacher work-related stress. The four factors which made the most substantial contribution to overall job-related stress of teachers were Role overload, Relationships with students, Work Load and Relationship with colleagues.

**Dileep V. Mavlankar (2009)** observes that the difficulties at the workplace may start because of the women’s need to take off for various reasons including child care, elderly care, pregnancy, etc. This may be compounded by gender biases and unhealthy gender relationships within the workplace. The final result of such accumulated stress and worries could be initially psychosomatic problems, (loss of sleep, headache, backache etc.) which could ultimately result in serious medical problems and chronic diseases (high blood pressure, diabetes, heart diseases etc.). The other possibilities are lack of self-confidence, fear, and loss of motivation to work.

**P.S.Swaminathan and S.Rajkumar (2010)**, states that stress management is attracting more and more attention now days especially with respect to the workplace. Everybody in the workplace experiences some kind of frustration, tension and anxieties related to the job assigned to the general work environment. In fact in the education sector, we find greater stress due to role overload.

### **3..METHODOLOGY**

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done. In it, we study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them. It is necessary for the researcher to know not only the research methods/techniques but also the methodology

#### **Sources of Data**

There are two types of data. Primary data: are those which are collected afresh for the first time and are original in character. Secondary data: are those which have already been collected.

#### **Sampling Frame**

The sampling frame consists of self-financing social and life sciences (Arts & science) colleges, Technological Institutions (Engineering and Architecture colleges), professional courses (MBA and MCA departments), Matriculation and CBSE (Central Board of Secondary Education) schools in and around Chennai City.

#### **Sample size:**

The sample size

Colleges =	60%	620 respondents
Schools =	40%	413 respondents
		1033

Using this calculation six hundred and twenty respondents (teaching staff) were drawn from self-financing Social & Life Sciences Colleges, Technological Institutions, and Professional Courses in and around Chennai City. Four hundred and Thirteen respondents (teaching staff) were drawn from Matriculation and CBSE Schools in and around Chennai city. This research study uses convenience sampling technique.

#### **Cronbach's Alpha and Test of Reliability**

The standardized Cronbach's alpha can be defined as a One hundred filled in questionnaires were used for calculating the standardized Cronbach's alpha and the score obtained was 0.7849. No changes were made in the questionnaire.

### **4..RESULTS & DISCUSSIONS**

#### **4.01 ASSOCIATION BETWEEN TYPES OF EDUCATIONAL INSTITUTIONS AND OPINION ABOUT INABILITY TO ATTEND TO FAMILY AND PERSONAL RESPONSIBILITIES DUE TO WORK PRESSURE.**

#### **Null Hypothesis**

There is no association between types of educational institutions and opinion about inability to attend to family and personal responsibilities due to work pressure.

Table 4.01 Chi-Square Test for association between types of educational institutions and opinion about inability to attend to family and personal responsibilities due to work pressure

Types of Educational Institutions	Inability to attend to family and personal responsibilities due to work pressure					Total	Chi-Square Value	P Value
	Strongly Disagree	Disagree	Neither Disagree nor agree	Agree	Strongly agree			
<b>Social &amp; Life Sciences Colleges</b>	26 (9.5%) [26.5%]	65 (23.8%) [26.7%]	61 (22.3%) [26.3%]	79 (28.9%) [22.5%]	42 (15.4%) [38.5%]	273	29.121	0.023*
<b>Technological Institutions</b>	20 (8.9%) [20.4%]	46 (20.5%) [18.9%]	64 (28.6%) [27.6%]	72 (32.1%) [20.5%]	22 (9.8%) [20.2%]	224		
<b>Professional Courses</b>	14 (11.4%) [14.3%]	27 (22.0%) [11.1%]	24 (19.5%) [10.3%]	42 (34.1%) [12.0%]	16 (13.0%) [14.7%]	123		
<b>Matriculation Schools</b>	15 (9.7%) [15.3%]	34 (21.9%) [14.0%]	39 (25.2%) [16.8%]	54 (34.8%) [15.4%]	13 (8.4%) [11.9%]	155		
<b>CBSE Schools</b>	23 (8.9%) [23.5%]	71 (27.5%) [29.2%]	44 (17.1%) [19.0%]	104 (40.3%) [29.6%]	16 (6.2%) [14.7%]	258		
<b>Total</b>	98	243	232	351	109	1033		

Note: 1 The value with ( ) refers to Row Percentage

2 The value with [ ] refers to Column Percentage.

\* denotes significance at 5% level

\*\* denotes significance at 1% level

In order to find out if there is any association between types of educational institutions, with reference to opinion about inability to attend to family and personal responsibilities due to work pressure Chi Square test is used. Since the P value is less than 0.05, the null hypothesis is rejected at 5% level of significance. Hence it is concluded that there is association between types of educational institutions with reference to respondents' opinion about inability to attend to family and personal responsibilities due to work pressure. In addition to the above, based on the row and column percentage the majority of respondents who strongly agree with the statement (38.5%) and those who strongly disagree (26.5%) with the statement that they are unable to attend to family and personal responsibilities due to work pressures are both from social & life sciences colleges. Most of respondents who are neutral (27.6%) are from technological institutions.

At the school level most of respondents who strongly agree (14.7%) and those who strongly disagree (23.5%) with the statement that they are unable to attend to family and personal responsibilities due to work pressure are both from CBSE schools. Those who are neutral (19.0%) are also from CBSE schools.

#### 4.02. ASSOCIATION BETWEEN TYPES OF EDUCATIONAL INSTITUTIONS AND OPINION ABOUT TEACHERS BEING OVERWORKED, OVER STRESSED AND UNDERPAID

##### Null Hypothesis

There is no association between types of educational institutions and opinion about teachers being over worked, overstressed and underpaid.

Table 4.02: Chi-Square Test for Association between types of educational institutions and opinion about teachers being overworked, over stressed and under paid

Types of Educational Institutions	Teachers are overworked, over stressed and underpaid					Total	Chi-Square Value	P Value
	Strongly Disagree	Disagree	Neither Disagree nor agree	Agree	Strongly agree			
<b>Social &amp; Life Sciences Colleges</b>	12 (4.4%) [30.8%]	46 (16.8%) [26.4%]	40 (14.7%) [29.2%]	88 (32.2%) [26.7%]	87 (31.9%) [24.6%]	273	38.101	0.001**
<b>Technological Institutions</b>	5 (2.2%) [12.8%]	34 (15.2%) [19.5%]	36 (16.1%) [26.3%]	72 (32.1%) [21.8%]	77 (34.4%) [21.8%]	224		
<b>Professional Courses</b>	8 (6.5%) [20.5%]	34 (27.6%) [19.5%]	16 (13.0%) [11.7%]	38 (30.9%) [11.5%]	27 (22.0%) [7.6%]	123		
<b>Matriculation Schools</b>	5 (3.2%) [12.8%]	21 (13.5%) [12.1%]	28 (18.1%) [20.4%]	44 (28.4%) [13.3%]	57 (36.8%) [16.1%]	155		
<b>CBSE Schools</b>	9 (3.5%) [23.1%]	39 (15.1%) [22.4%]	17 (6.6%) [12.4%]	88 (34.1%) [26.7%]	105 (40.7%) [29.0%]	258		
<b>Total</b>	98	174	137	330	353	1033		

Note : 1. The value within ( ) refers' to Row percentage.

2. The value within [ ] refers to Column percentage.

In order to identify the association between types of educational institutions, and opinion about teachers being overworked, overstressed and under paid, Chi-Square test is used. Since the P Value is less than 0.01, the null hypothesis is rejected at 1% level of significance. Hence it is concluded that there is association between respondents' opinion about teachers being over worked, overstressed and under paid. In addition to the above based on the row and column percentage , majority of the respondents who strongly agree (24.6%) and those who strongly disagree (30.8%) with the statement that teachers are overworked, overstressed and underpaid are both from social & life sciences colleges. Those who are neutral (29.2%) are also from social & life sciences colleges.

At the school level, most of the respondents who strongly agree (29.0%) and those who strongly disagree (23.1%) with the statement teachers are overworked, overstressed and underpaid are both from CBSE schools. Most of the respondents who are neutral (20.4%) are from matriculation schools.

#### 4.03 SIGNIFICANT DIFFERENCE BETWEEN TYPES OF EDUCATIONAL INSTITUTIONS, WITH REFERENCE TO OPINION ABOUT STRESS DUE TO COMPULSORY FAMILY AND SOCIAL COMMITMENTS.

### Null Hypothesis

There is no significant difference between types of educational institutions, with reference to opinion about stress due to compulsory family and social commitments.

Table 4.03 Kruskal-Wallis Test for significant difference between types of educational institutions, with reference to opinion about stress due to compulsory family and social commitments

Types of educational institutions	Mean Rank	Chi Square Value	P Value
Social & Life Sciences Colleges	511.51	0.545	0.969
Technological Institutions	513.62		
Professional courses	533.34		
Matriculation	515.90		
CBSE	518.62		

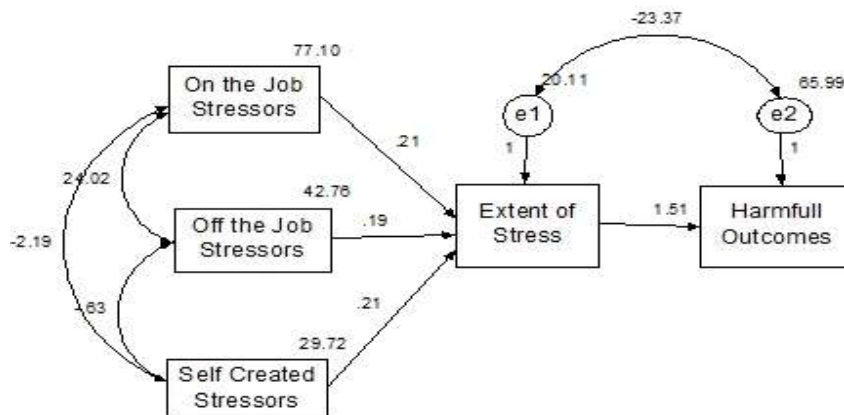
In order to discern significant difference between types of educational institutions, with reference to opinion about stress due to compulsory family and social commitments, Kruskal-Wallis test is used. Since the P Value is more than 0.05, the null hypothesis is accepted at 5% level of significance. Hence it is concluded that there is no significant difference between types of educational institutions, with reference to opinion about stress due to compulsory family and social commitments. The top mean rank is that of respondents in professional courses (M.R.533.34) and the lowest one that of respondents in social & life sciences colleges (511.51).

With reference to schools, the top mean rank is that of respondents in CBSE schools (518.62) the lowest one is of respondents in matriculation schools (M.R.515.90). But these are not statistically significant at 5% level.

### STRUCTURAL EQUATION MODEL

Structural Equation Model on Women Employees' Stress with reference to Education Institutions

Fig:4.2.1 Structural Equation model of various stressors and their effect



## 5..CONCLUSION

In conclusion, women teaching staff in private schools and self financing colleges experience stress due to stressors on-the-job, off-the-job, self-created and also due to expectations from family. This has led to various adverse physiological and emotional outcomes. The respondents and the researcher have made certain suggestions for reducing the adverse effects of stress. Teaching staff in private schools and self-financing may choose and the exit option (resignation) if they experience high stress. This will only worsen the situation in these institutions if they already face a faculty crunch with five-star international schools offering almost corporate-level salaries and enviable working conditions, teachers from private matriculation and CBSE schools may quit and join these schools already there are stories of “body snatching” of teachers (from CBSE schools) by international schools. The teaching staff in self-financing, institutions (social and life sciences, technological institutions and professional courses) may seek “greener pastures” if they experience high stress. Foreign universities may enter India in the near future, and there may a “flight” of qualified and experienced faculty to these institutions, who will be offering almost corporate salaries and luxurious working conditions.

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## ANALYSIS OF FOREIGN DIRECT INVESTMENT ON SERVICE SECTOR: A STUDY WITH REFERENCE TO INDIA

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### ABSTRACT

During 1990, there was a great setback in the Indian economy due to the economic crisis. The Indian economy suffered from low per capita income, chronic unemployment, low capital formation, increased trade deficit, low standard of living, low growth in GDP, low infrastructural development etc. In view of the economic crisis and the shortage of capital, the Government of India realized the importance of foreign capital for the development of the country. From the period 1991 onwards there has been continuous effort taken by the Government in attracting foreign capital and hence this period is termed as the post liberalization period. The initiatives taken by the Government include increasing the investment cap, providing concessions in taxes and offering tax holidays. India was then attracted to foreign investors; as a result there was a massive increase of foreign investment flow into the country. The contribution of FDI inflow into the country was US \$ 129 million in 1991-92 to US \$ 37,182 in 2009-10. During 2006, the share of FDI in this sector was increased drastically from 30.72 percent in 2005 to 61.94 percent in 2006. From 2006 onwards, an upward trend of FDI in this sector was observed. There is a significant change from manufacturing to service sector from 2006 onwards.

**Keywords:** FDI, Economy, Service Sector, Estimated, Pre and Post Liberalization foreign capital etc.,

### 1.INTRODUCTION

The Indian economy has made remarkable progress during the pre-liberalization period. The agricultural sector during the period has progressed through green, yellow, white and blue revolutions. The industrial sector has grown annually by 6 to 7% and the tertiary sector has contributed to the growth of the Indian economy. During 1990, there was a great setback in the Indian economy due to the economic crisis. The Indian economy suffered from low per capita income, chronic unemployment, low capital formation, increased trade deficit, low standard of living, low growth in GDP, low infrastructural development etc. In view of the economic crisis and the shortage of capital, the Government of India realized the importance of foreign capital for the development of the country. From the period 1991 onwards there has been continuous effort taken by the Government in attracting foreign capital and hence this period is termed as the post liberalization period. The initiatives taken by the Government include increasing the investment cap, providing concessions in taxes and offering tax holidays.

For the first four decades after independence in 1947, the economic policies of the



Indian government were characterized by planning, control and regulation. Until the 1980s, India's development strategy was focused on self-reliance and import substitution. There were periodic attempts at market-oriented reform, usually following balance of payments pressures, which induced policy responses that combined exchange rate depreciation and an easing of restrictions on foreign capital inflows. However, these controls were relatively narrow in scope and had little impact on actual inflows, which remained small. The situation changed dramatically with the onset of reform programmes introduced in the early 1990s in the aftermath of the balance of payments crisis of 1991. Broadly speaking, India's approach towards external capital flows can be divided into three main phases. In the first phase, starting at the time of independence and spanning up to the early 1980s, India's reliance on external flows was mainly restricted to multilateral and bilateral concessional finance. Subsequently, in the context of a widening current account deficit during the 1980s, India supplemented this traditional external source of financing with recourse to external commercial loans, including short-term borrowings and deposits from non-resident Indians (NRIs). As a result, the proportion of short-term debt in India's total external debt had increased significantly by the late 1980s. The third phase was marked by the balance of payments crisis of 1991 and the initiation of the reform process.

The broad approach to reform in the external sector was made in the Report of the High Level Committee on Balance of Payments based on the recommendations made by C. Rangarajan, Chairman, Economic Advisory Council in 1991. The objectives of reform in the external sector were conditioned by the need to correct the deficiencies that had led to payment imbalances in 1991. Recognizing an inappropriate exchange rate regime, unsustainable current account deficit and a rise in short-term debt in relation to official reserves were amongst the key contributing factors to the crisis. A series of reform measures were put in place. They included a swift transition to a market-determined exchange rate regime, dismantling of trade restrictions, a move towards current account convertibility and a gradual opening-up of the capital account. While liberalizing private capital inflows, the Committee recommended, inter-alia: a compositional shift away from debt to non-debt-creating flows; strict regulation of external commercial borrowings, especially short-term debt; discouragement of the volatile element of flows from NRIs; and a gradual liberalization of outflows.

Service sector was the second attracted sector for foreign investors during the period from 1991 to 2005. But from 2006 onwards, this sector became the most preferred sector for foreign investors when it is compared to manufacturing and primary sector. During 2006, the share of FDI in this sector was increased drastically from 30.72 percent in 2005 to 61.94 percent in 2006. From 2006 onwards, an upward trend of FDI in this sector was observed. Table 4.8 and Chart 4.5 elaborate the fact that the sectoral composition of FDI has undergone a significant change from manufacturing to service sector from 2006 onwards. The major shift in the composition of FDI is due to the policy liberalization and the changes in sectoral policies of FDI from time to time. Earlier, many sectors which were not open to FDI were thrown open and limits of many others have been raised in the post liberalization period. During 1991-2005, only 43 industries were opened to foreign direct investment but from 2006 onwards, due to further liberalization of FDI policies, the number of industries has increased to 64.

Further, the phenomenal shift of FDI in India from manufacturing to service sector has caused the need to compare sectoral composition of FDI flow in India with that of the developed and developing countries in the world.

## 2.STATEMENT OF THE PROBLEM

During 1990, India was facing with a serious economic and Balance of Payment crisis. It was the time when Government felt the need for foreign capital to supplement domestic capital to overcome the crisis and to stimulate economic growth. In 1991, the Government liberalized the economy by opening the doors to foreign investors so as to bring India in tune with the global economy. India was then attracted to foreign investors; as a result there was a massive increase of foreign investment flow into the country. The foreign investment inclusive of both FDI and FPI which was US\$133 million in 1991-92 increased to US \$ 69,557 million in 2009-10. The contribution of FDI inflow into the country was US \$ 129 million in 1991-92 to US \$ 37,182 in 2009-10. During 2006, the share of FDI in this sector was increased drastically from 30.72 percent in 2005 to 61.94 percent in 2006. From 2006 onwards, an upward trend of FDI in this sector was observed. There is a significant change from manufacturing to service sector from 2006 onwards.

## 3.OBJECTIVES OF THE STUDY

- ◆ To analyze the forecasting of FDI Inflows into India
- ◆ To identify the trends and status of FDI Inflows into Service Sector

### REVIEW OF LITERATURE

**Balasundaram Maniam and Amitiava Chatterjee (1998)** analysed on the determinants of US foreign investment in India; tracing the growth of US FDI in India and the changing attitude of the Indian Government towards it as a part of the liberalization program. They find that only the relatively weak exchange rate appears to be a significant factor and that the US FDI has been increasing in dollar amounts and relative percentage growth. They call for an improvement in infrastructure and reductions in red tape and protectionism to encourage further growth.

**Nagesh Kumar (2000)** has made an exploratory attempt to examine the patterns of MNC related mergers and acquisitions in India during the nineties with the help of an exclusive data base. He finds that the liberalization of policy framework since the early nineties has led the MNCs to increasingly use the Merger and Acquisition route to enter and strengthen their presence in the country. In the recent years, two fifths of all FDI inflows took the form of M&A s compared to virtually all of FDI inflows coming from Greenfield ventures earlier. The deals relating to MNCs are predominantly horizontal rather than vertical in nature. In terms of development implications, he finds that FDI inflows in the form of M&A s are of an inferior quality compared to Greenfield investments. These findings, therefore, emphasize the need for adopting a comprehensive competition policy framework in India.

**Constantina Kottaridi and Thanasis Stengos (2010)** make a contribution to the existing literature on the foreign direct investment and economic growth nexus by contrasting past empirical evidence and conventional wisdom and arriving at some interesting new results. By applying non-parametric methods and taking into account non-linear effects of initial income and human capital on economic growth. They explore the FDI effect on growth in much greater detail than previous studies. Their findings not only confirm the non-linear effect of human capital in the presence of FDI inflows but also suggest that FDI inflows are growth enhancing in the middle-income countries while there is a 'two-regime' FDI effect for high-income countries. This new finding appears to be independent of OECD country membership.

**Elizabeth Asiedu and Donald Lien (2011)**, in their empirical studies examine the impact of democracy on foreign direct investment assume that the relationship between democracy and FDI is the same for resource exporting and non-resource exporting countries. This paper examines whether natural resources in host countries alter this relationship. We estimate a linear dynamic panel-data model using data from 112 developing countries over the period 1982–2007. We find that democracy promotes FDI if and only if the value of the share of minerals and oil in total exports is less than some critical value. We identify 90 countries where an expansion of democracy may enhance FDI and 22 countries where an increase in democratization may reduce FDI. We also find that the effect of democracy on FDI depends on the size and not the type of natural resources.

### **3.METHODOLOGY RESEARCH DESIGN**

The design adopted for the study is Descriptive Research Design, as the study is concerned with describing the characteristics and specific predictions about Foreign Direct Investments in India during a particular period.

### **4.PERIOD OF STUDY**

The main purpose of the study is to analyze the magnitude, causes and effects of Foreign Direct Investment inflow into the country. Hence FDI inflows into the country is analyzed for a period of 30 years from 1980-81 to 2009-10. For better analysis, the period is classified into two phases: the first phase is the period of Pre-Liberalization i.e., period from 1980-81 to 1990-91 and the second phase is the Post Liberalization period from 1991-92 to 2009-10. The rest of the analysis, that is, the country wise source, sectoral analysis, relationship between FDI and FPI, factors which determine FDI flow and its impact on the economy are analyzed for a period of 19 years from 1991-92 to 2009-10.

The period under study is important for a variety of reasons. First of all, it was during July 1991 that India opened its doors to private sector and to foreign investors by liberalizing and globalizing the economy. Secondly, the experiences of South-East Asian countries by liberalizing their economies in 1980s became the stars of economic growth and development in early 1990s. Thirdly, India's experience with its first generation economic reforms and the country's economic growth performance was considered as safe havens for FDI which led to second generation of economic reforms in India in first decade of this century. Fourthly, there is a considerable change in the attitude of both the developing and developed countries towards FDI. They both consider FDI as the most suitable form of external finance. Fifthly, there is an increase in competition for FDI inflows particularly among the developing nations.

### **5.SOURCES OF DATA**

The study is based on secondary data which is published sources of data collected from various sources. The data was extracted from the following sources; Handbook of Statistics on the Indian economy, RBI, various issues, UNCTAD, WIR series, various issues, Economic Survey, Government of India, various issues, World Development Indicators, World Bank, Department of Industrial Policy and Promotion (DIPP), Secretariat of Industrial Assistance (SIA), Central Statistical Organization (CSO).

## 6.HYPOTHESIS

The hypotheses for the study are to test whether FDI inflow shows a positive trend over the study period.

## 7.RESULT AND DISCUSSIONS

### Trends in FDI Inflows during 2010-11 to 2014-15

After analyzing the volume of FDI Inflows in India, during the Pre and Post Liberalization period the trend in FDI inflows for next five years i.e., from 2010-11 to 2014-15 is being projected. The projection of FDI inflow to the country is estimated by using Auto Regression Moving Average (ARIMA) model. The results of the model are summarized in table 1.1 and the estimated FDI inflows from 2010-11 to 2014-15 is tabulated in table 1.2.

**Table 1.1: Result of ARIMA model of FDI Inflows**

Model	Coefficient	Std. Error of Coefficient	t value	p value
AR1	1.449	0.189	7.649	0.000**
AR2	-.652	0.218	2.988	0.009**
Year	8409.651	2517.263	3.340	0.004**
Constant	-16780248.439	5037067.20	3.331	0.004**

\*\* denotes significance at 1% level

Log Likelihood

: - 206.973

Alkaline's Information Criterion (AIC) : 421.946

Schwarz's Bayesian Criterion (SBC) : 425.724

From the above result, the p-value of the constant, first and second lag is very less. This indicates that the fit is good. Further, the Alkaline's Information Criterion (AIC) and Schwarz's Bayesian Criterion (SBC) both measure goodness of fit and account for model complexity. The ARIMA model equation is fitted as ,

$$(\Delta FDI)_t = -16780248.439 + 1.449 (\Delta FDI)_{t-1} - 0.652 (\Delta FDI)_{t-2} + \varepsilon_t$$

Where,  $(\Delta FDI)_t$  = first order difference in FDI =  $(FDI)_t - (FDI)_{t-1}$

**Table 1.2: Estimated FDI Inflows in India during 2010-11 to 2014-15  
(Amount Rs. In Cr.)**

Year	Estimated Amount	% of Growth in FDI over Previous year	95% Confidence Limit	
			Lower CL	Upper CL
2010-11	178,110	1	146,101	210,120
2011-12	172,800	-3	111,528	234,071
2012-13	165,622	-4	79,279	251,966
2013-14	160,380	-3	55,166	265,595
2014-15	159,161	-1	41,180	277,142

**Fig. 1.1 : Projection of FDI Inflows in India from 2010-11 to 2014-15**

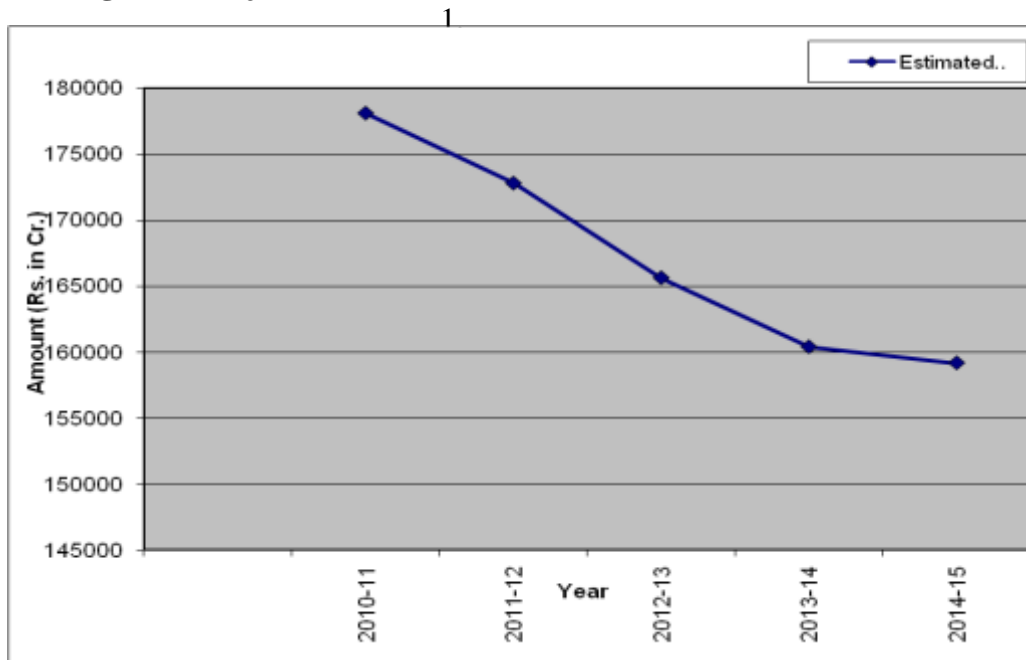


Table 1.2 shows a marginal increase of one percent in FDI inflow as when compared to the period 2009-10. Then from the period 2011-12 to 2014-15 a downtrend of FDI inflow is observed. FDI inflow into India is estimated to be Rs.172800 crore in 2011-12 as against Rs.178110 crore in 2010-11, that is, the growth trend of FDI inflow into the country shows a decline of 3 percent in 2011-12 as when compared to 2010-11. This fall in FDI inflow into the country is expected to further decline during 2012-13, that is, a 4 per cent decline will be anticipated as against the previous year. During 2013-14 and 2014-15, the fall in growth rate of FDI inflow is found to be reduced to 3 percent and one per cent as against the previous years. The projection of FDI inflow in India for the next five year period from 2010-11 to 2014-15, shows that FDI into the country will have a downward trend from 2011-12 onwards. Therefore, Government should take suitable steps to overcome this situation.

### **Trends in Service Sector**

First of all we observe that the FDI inflow in services has been phenomenal in the last two decades. Since the onset of liberalization, the country received a huge amount of FDI in service sector because of the tremendous growth potential that it possesses. This sector has ranked among the top ten sectors attracting FDI since 1991. Services which comprise of financial and non financial services, banking services and insurance, outsourcing and research and development services recorded third place during 1991-99 and 2000-05 by attracting 9.71 and 9.61 percent of total FDI inflows during the two periods. However, it moved to rank one by adding 22.96 percent share to the cumulative FDI for the period from 2006 to 2010.

Among the sub sectors of services sectors, financial services attract 9.13 percent of total FDI inflows. It is followed by banking services 2.11 percent, insurance 1.52 percent, non-financial services 2.09 percent, outsourcing 0.72 percent, research and development 2.33 percent, courier 0.32 percent and other services 3.38 percent respectively. Mauritius was placed the top of the chart by investing 43.09 percent in

service sector followed by Singapore 13.88 percent, UK by 11.21 percent and USA by 8.52 percent. FDI inflows in service sector are heavily concentrated around two major cities in India that is, Mumbai by 62.90 percent and Delhi 12.48 percent.

Further using Auto Regression Moving Average (ARIMA) model FDI inflow in Service Sector is projected for next five years. The results of the model are summarized below -

**Table 1.3: Result of ARIMA model of FDI Inflows to Service Sector**

Model	Coefficient	Std. Error of Coefficient	t value	p value
AR1	0.303	0.320	0.946	0.372
Year	28751.483	8984.229	3.200	0.013 *
Constant	-57516537.647	18004421.558	3.195	0.013 *

\*\* denotes significance at 1% level

Log Likelihood : -137.405

Alkaline's Information Criterion (AIC) : 280.810

Schwarz's Bayesian Criterion (SBC) : 282.004

The above result shows that the p-value of the constant and first lag is very less. It indicates that the test is fit. Further, the Alkaline's Information Criterion (AIC) and Schwarz's Bayesian Criterion (SBC) both measure goodness of fit and account for model complexity. The ARIMA model equation is fitted as,

$$(\Delta FDI)_t = -57516537.647 + 0.303 (\Delta FDI)_{t-1} + \varepsilon_t$$

where,  $(\Delta FDI)_t =$  first order difference in FDI =  $(FDI)_t - (FDI)_{t-1}$

**Table 1.4 : Actual and estimated values of FDI Inflows to Service Sector**

(Amount Rs. in Million)

Year	Actual Values	Estimated Values	95% Confidence Limit		% of Growth in FDI over Previous Year
			Lower CL	Upper CL	
1991-99	40,376.82	-42,321.49	-260,020.14	175,377.16	-
2000	1,861.50	11,501.48	-172,435.83	195,438.79	-
2001	8,202.24	19,859.82	-160,571.20	200,290.83	341
2002	15,431.39	41,817.08	-136,212.71	219,846.87	88
2003	13,903.59	64,043.68	-112,735.00	240,822.36	-10
2004	11,455.83	83,615.45	-93,086.66	260,317.56	-18
2005	31,455.14	102,908.32	-74,893.27	280,709.91	175
2006	178,584.74	129,006.43	-51,049.17	309,062.02	468
2007	145,099.52	193,646.37	10,224.82	377,067.92	-19
2008	339,475.12	203,529.68	15,689.98	391,369.38	134
2009	279,182.54	282,493.10	89,255.22	475,730.98	-18
2010		284,249.27	84,712.70	483,785.84	2
2011		305,820.29	73,698.55	537,942.03	8
2012		332,394.89	81,625.91	583,163.87	9
2013		360,486.41	93,995.60	626,977.22	8
2014		389,037.82	107,171.27	670,904.36	8
2015		417,728.64	120,149.10	715,308.18	7

Note: Actual values compiled from SIA, Newsletter, 2009.

**Fig. 1.2: Trends in Service Sector**

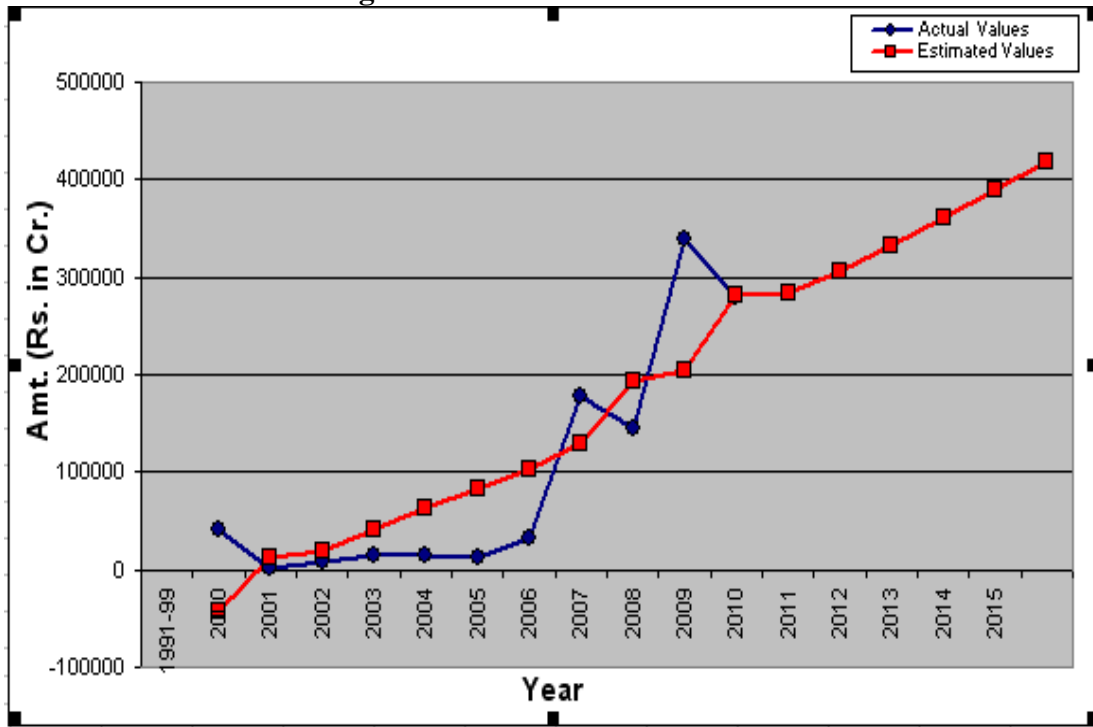


Table 1.4 and Fig.1.2 shows the trend in FDI Inflow in Service Sector and the projection of inflow into this sector is estimated for a period of six years from 2010 to 2015 using ARIMA model. It is observed that during this period FDI in this sector shows an upward trend. The share of FDI in this sector was found to have a 2 percent increase in 2010. Later during 2011 and 2012, foreign investments are expected to have a further increase of 8 percent and 9 percent. But from 2013 onwards, the share of foreign investment in this sector is expected to gradually reduce to 8 percent in 2013 and 2014 and to 7 percent in 2015.

## 8.CONCLUSION

After liberalizing the economy in 1991, Foreign Direct Investment played a major role in the growth of the country. The findings of the study reveal that there has been increase in sectoral growth of the economy, increase in the level of Personal Disposable Income, Exports, Imports and rise in the level of employment. A rise in all the above factors leads to an overall growth of the country creating a positive impact on the economy. Although there has been increased flow of FDI into the country during the post liberalization period, it is found that the global share of FDI in India is very less when it is compared to other developing countries. Further, it was found that the realization of approved FDI into actual is very less over the years. Therefore, to overcome this situation, the Government of India should take serious steps to simplify the procedures and remove red-tapism so that actual FDI can be raised. Government should also revise the sectoral cap and bring more sectors under the automatic route. Further, agreement of Double Taxation treaties should be signed with other countries in order to increase bilateral trade between the countries. Therefore, there is an urgent need to adopt innovative policies and good corporate governance practices on par with international

standards, by the Government of India, to attract more and more foreign capital in service sector to enhance its performance and also to contribute more in Indian economy.

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# Entrepreneurship & Small Business

10:30-12:00, December 15, 2012 (Room 4)

**Session Chair:** *Prof. Dirk De Clercq*

**1669: Learning Effort and Performance in Foreign Markets: An Investigation of Chinese International Ventures**

*Dirk De Clercq*

*Brock University*

*Lianxi Zhou*

*Brock University*

*Aiqi Wu*

*Zhejiang University*

**1671: Exploration of the Extent of Brand Development Activities Employed By Small Businesses – A Case of Blueberry Farm**

*Yi Sheng Goh*

*National Cheng Kung University*

**1746: Exploring the Intention of OIC Food Manufacturer in Accepting Malaysia as Global Halal Hub**

*Rozailin Abdul Rahman*

*University Putra Malaysia*

*Zainalabidin Mohamed*

*University Putra Malaysia*

*Golnaz Rezaei*

*University Putra Malaysia*

**1795: Marketing Capabilities and Sustainable Firm Performance of Informal Social Micro-enterprises (ISMEs) in Developing Countries**

*Eijaz Ahmed Khan*

*Curtin University*

*Mohammed Quaddus*

*Curtin University*

*Anna Lee Rowe*

*Curtin University*

## Learning Effort and Performance in Foreign Markets: An Investigation of Chinese International Ventures

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### ABSTRACT

We investigate the relationship between ventures' learning effort and performance in foreign markets, as well as its underlying contingencies. We predict that international learning effort enhances international performance, that this effect is stronger at higher levels of market turbulence and intrafirm trust, and that the enabling role of trust for enhanced performance is particularly strong in turbulent markets. A sample of 162 Chinese international ventures supports the hypotheses. The study's findings have key implications for research and practice.

Keywords: International Entrepreneurship; Learning; Market Turbulence; Trust

### 1. INTRODUCTION

The significance of organizational learning to the performance of young international ventures is widely recognized (Autio, Sapienza, & Almeida, 2000; Barkema & Vermeulen, 1998; Bruneel, Yli-Renko, & Clarysse, 2010; Fernhaber, McDougall-Covin, & Shepard, 2009; Zahra, Ireland, & Hitt, 2000). Even if ventures possess superior products and services, they must master the knowledge and skills needed to position their offerings successfully relative to international competitors, if they hope to enjoy superior international performance (McGrath, MacMillan, & Venkataraman, 1995; Zahra et al., 2000). Accordingly, international entrepreneurship research emphasizes the importance of learning for ventures' international growth and competitive advantage (Autio et al., 2000; Burpitt & Rondinelli, 2000; Zahra et al., 2000; Zhou, 2007). Learning theory suggests that the amount of foreign knowledge that the venture acquires depends critically on the intensity of its learning efforts in foreign markets (Cohen & Levinthal, 1990). Yet little research explicitly investigates the link between a venture's actual *efforts* to acquire new knowledge in foreign markets and its performance in those markets (Cumming, Sapienza, Siegel, & Wright, 2009; De Clercq et al., 2012). To address this gap, we investigate how the efforts that young international ventures devote to developing new foreign knowledge affect their international performance.

In addition, since translating learning efforts into improved international performance is not automatic, we consider possible contingencies of the effort–performance relationship. Young ventures can benefit from engaging in intensive learning efforts, but they may also encounter resource limitations that prevent them from exploiting their

learning activities in external markets (Aldrich, 1999; Knight & Cavusgil, 1996). Their ability to integrate newly acquired foreign knowledge into their ongoing operations may be constrained too (Zahra, 2005), such that successful outcomes of intensive learning efforts in foreign markets are not guaranteed. Although some entrepreneurship research has considered the contingent nature of international learning (e.g., Bruneel et al., 2010; Fernhaber et al., 2009; Zahra et al. 2000), we lack a clear understanding of how specific elements of the external and internal environment might invigorate the contribution of ventures' actual learning efforts to their international performance (De Clercq et al., 2012). In response, we investigate how the strength of the relationship between such learning efforts and performance depends on a critical external factor (market turbulence) and an internal one (intrafirm trust).

Taken together, we aim to make the following contributions. First, we adopt a learning perspective to investigate whether and how a venture's learning about foreign markets informs its performance in these markets. Learning about foreign markets can help the venture understand the specific institutional and competitive conditions of the markets entered, as well as how its internal processes match with these markets (De Clercq et al., 2005; Eriksson et al., 1997; Zaheer & Mosakowski, 1997). We empirically assess the link between specific *efforts* targeted at international learning and international performance.

Second, we posit that the effective translation of international learning efforts into performance depends on both (1) the external market needs for such efforts, as informed by the level of market turbulence, and (2) the ability to engage in effective internal knowledge assimilation, stemming from intra-firm trust. These contingencies thus tap into the desirability and feasibility, respectively, of a venture's exploitation of foreign knowledge. Intensive learning efforts imply the potential for enhanced international performance, but the extent to which such potential is realized depends on the usefulness of such efforts in light of external market conditions, as well as whether managers are willing to share newly acquired foreign knowledge with their colleagues.

Third, we investigate how the interplay between these two contingencies informs the venture's ability to leverage learning efforts into enhanced performance. Internal mechanisms that facilitate foreign knowledge integration may increase the venture's international competitive advantage (Zahra et al., 2000), but we posit that the relative importance of these mechanisms also may vary across different external conditions. Accordingly, we seek to provide a theoretical elaboration of how the *combination* of external and internal conditions affects the instrumentality of international learning efforts.

## **2. THEORETICAL BACKGROUND AND HYPOTHESES**

### **2.1. Conceptual Model**

Learning is a critical component of the internalization process (Cumming et al., 2009; De Clercq et al., 2012; Keupp & Gassmann, 2009; Zahra et al., 2000). Original process models of internationalization conceived of foreign knowledge, or its lack, as a primary explanation of ventures' incremental expansion in foreign markets (Eriksson et al., 1997; Johanson & Vahlne, 1977, 1990). In contrast, international entrepreneurship literature recognizes the importance of the mobilization of the venture's knowledge base for its decision to enter foreign markets early on its existence (Reuber & Fisher, 1997;

Weerawardena, Mort, Leisch, & Knight, 2007), as well as for its performance in such markets (e.g., Autio et al. 2000; Zahra et al., 2000).

A critical driver of knowledge mobilization is the intensity of international learning efforts, or the extent to which the firm is continuously on the lookout to develop new knowledge relevant to its foreign activities (Sapienza, De Clercq, & Sandberg, 2005; Zhou, 2007). Such learning efforts represent a knowledge acquisition strategy (Huber, 1991) that encompasses various search activities, including environmental scanning, market research, and performance monitoring, all of which aim at updating the venture's existing knowledge base (Cohen & Levinthal, 1990; De Clercq et al., 2012). Despite the benefits of expending intensive learning efforts, these efforts are not a guarantee that young international ventures enjoy superior performance, for two reasons. First, the costs encountered by resource-constrained ventures when allocating substantial resources to international search activities may outweigh the advantages of these activities, particularly in external environments that are highly predictable and that thus require less knowledge renewal (Huber, 1991; Sapienza et al., 2005). Second, the integration of new foreign knowledge within the venture's existing knowledge base may be problematic, to the extent that certain managers prefer to keep foreign knowledge to themselves in order to receive full credit for it (Grant, 1996; Luo, Slotegraaf, & Pan, 2006). Accordingly, we investigate how the level of *market turbulence* in the venture's external environment and the level of *trust* among its managers influences the incremental benefit of international learning efforts.

First, market turbulence is an environmental condition that reflects the level of change and dynamism in the preferences of customers or other stakeholders. It infuses high levels of uncertainty into the venture's decision making processes (Hult, Ketchen, & Arrfelt, 2007; Jaworski & Kohli, 1993) and emerges as an important feature in previous investigations of the links between firms' strategic choices and performance (Hart & Banbury, 1994; Tegarden, Sarason, & Banbury, 2003). As environments become more turbulent, firms are pressed to adapt flexibly to changing external conditions (Hult et al., 2007), but their inability to do so can lead to organizational failure (Levitt & March, 1988). Particularly important for this study's context is the argument that turbulent markets inform the venture's knowledge-gathering requirements (Miles, Snow, & Pfeffer, 1974), such that in conditions of environmental uncertainty, the benefits of intensive information search increase (Huber, 1991; Kim & Atuahene-Gima, 2000).

Second, the venture's internal environment should also play a critical role in how foreign knowledge gained through intensive learning efforts is effectively leveraged (Zahra & Hayton, 2008). We focus herein on trust, and particularly goodwill trust among the venture's managers (Rousseau, Sitkin, Burt, & Camerer, 1998). Such trust implies benevolence or the absence of opportunism and thus the willingness to leave oneself vulnerable to the actions of others (Dayan, Di Benedetto, & Colak, 2009; Zaheer, McEvily, & Perrone, 1998). When goodwill trust is present, managers likely undertake initiatives that exploit the venture's international opportunities, even if these initiatives go over and above what they explicitly are expected to do (De Clercq, Dimov, & Thongpapanl, 2010; Rousseau et al., 1998). Thus, they may be more prone to go out of their way to do what is best for the entire venture, such as openly sharing relevant foreign knowledge with colleagues, instead of focusing on their own interest (Tsai & Ghoshal, 1998; Zaheer et al., 1998).

We now turn to the study's hypotheses, which are summarized in the conceptual framework depicted in Figure 1. We first provide arguments for the presence of a direct positive relationship between international learning effort and performance, and then discuss the contingencies of this relationship.

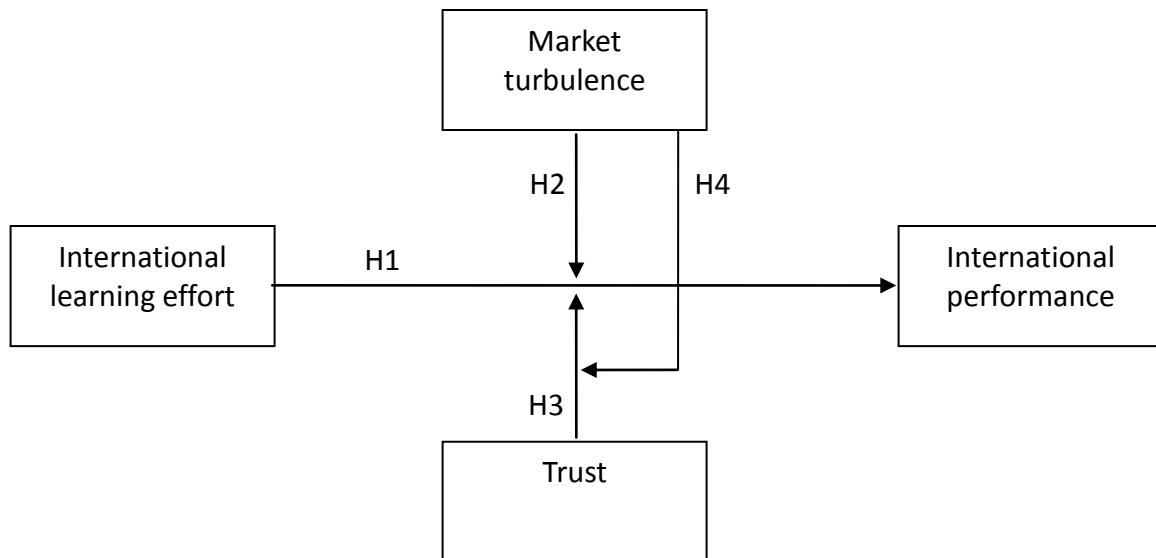


Figure 1: Conceptual model

## 2.2. Direct Effect of International Learning Effort

International entrepreneurship literature argues that the venture's performance in foreign markets improves with its ability to assemble knowledge from its foreign operations (McDougall, Shane, & Oviatt, 1994; Zahra et al., 2000). For example, Autio et al. (2000) find a positive relationship between the knowledge intensity of young international ventures and their international sales growth. Learning theory suggests that effective knowledge exploitation is more likely when greater investments are made in the search for and acquisition of new knowledge (Cohen & Levinthal, 1990; Huber, 1991). Similarly, as our baseline hypothesis, we predict that high levels of learning efforts expended in foreign markets should increase the venture's performance in these markets.

Efforts to develop new foreign knowledge enrich the venture's knowledge base (Cohen & Levinthal, 1990; Floyd & Lane, 2000), such that the ability to match its existing competences with foreign market opportunities increases (Zahra & George, 2002). When the venture engages in intensive knowledge search abroad, it is better equipped to recognize and exploit foreign market opportunities. Such opportunities are multifaceted, including aspects of product, technology, and marketing (Grégoire, Barr, & Shepherd, 2010), as well as country-specific institutional arrangements (Eriksson et al., 1997), which makes them *less* obvious and more difficult to exploit in the absence of targeted learning efforts.

Because significant learning efforts in foreign markets enable the venture to see more varied pathways for sustained foreign activity (Cohen & Levinthal, 1990) and to compare and contrast different alternative strategies in parallel (Eisenhardt, 1989), it can also act more rapidly and confidently on foreign market opportunities when they present

themselves. Thus, the insights gained from intensive learning efforts should make the venture more efficient in comparing the relative strengths and weaknesses of different strategic choices in relation to its international presence (De Clercq et al., 2005), thereby increasing the ability to improve its competitive positioning. Conversely, ventures that are less prone to go out of their way to develop new foreign knowledge likely perceive fewer alternatives for optimizing their international presence, such that their performance in foreign markets should be hampered.

*H1: There is a positive relationship between ventures' international learning effort and international performance.*

### **2.3. The Moderating Effect of Market Turbulence**

Market turbulence captures the extent to which the preferences of the venture's stakeholders change over time (Jaworski & Kohli, 1993). We argue that in turbulent markets, the incremental importance of ventures' international learning efforts for their international performance grows stronger than in stable markets. Previous research indicates that in external environments marked by high levels of dynamism and change, a premium is associated with developing new knowledge (Hult et al., 2007; Kim & Atuahena-Gima, 2010). This argument is based on the notion of requisite variety (Lynn, 2005), which posits that increasing environmental uncertainty requires internal mechanisms that help firms cope with that uncertainty. In the context of this study, a venture that exerts significant efforts to update its foreign knowledge base possesses a greater arsenal of tools to overcome the complexity created by rapid external changes (Hult et al., 2007). In contrast, stable environments require less environmental scanning, and in these environments the costs of intensive learning efforts may outweigh their benefits (Huber, 1991; Jaworski & Kohli, 1993), such that the incremental importance of learning efforts is attenuated.

The positive interaction between international learning efforts and market turbulence also follows the notion of "fit" (Doty & Glick, 1994; Naman & Drazin, 1993), such that superior performance in foreign markets is more likely achieved when there is a proper alignment between the venture's endogenous strategic choices, such as devoting substantial attention to learning activities, and exogenous context variables, such as market turbulence (Mu & Di Benedetto, 2011). For example, innovation research shows that a strategic posture that stimulates exploratory learning enhances firms' ability to cope effectively with dynamic environments, such that it leads to more success in new product development (Kim & Atuahene-Gima, 2000). Similarly, Li and Calantone (1998) argue that because rapid environmental changes reduce the length of the life cycle for firms' products, they increase the need for firms to engage in knowledge-intensive activities, such as R&D investments, to attain new product commercialization success. In the context of venture internationalization, these arguments suggest the following hypothesis:

*H2: The positive relationship between ventures' international learning effort and international performance is moderated by market turbulence, such that the relationship is stronger at higher levels of market turbulence.*

### **2.4. The Moderating Effect of Trust**

Intrafirm goodwill trust reflects managers' belief that colleagues in the venture will not engage in opportunistic behavior, even if the opportunity to do so arises (De Clercq et al., 2010; Zaheer et al., 1998). We hypothesize a positive interaction between

international learning effort and trust, such that the incremental importance of international learning effort for international performance increases in conditions of higher trust. The integration of new foreign knowledge into the venture's existing knowledge base may lead to internal rivalry (Sapienza, Autio, George, & Zahra, 2006), whereby managers with responsibilities in foreign markets resist sharing their insights with colleagues, for fear that these colleagues will "steal" their foreign expertise or take unjustified credit for it (Luo et al., 2006; Tsai, 2002). In turn, to the extent that managers feel assured that their colleagues will *not* take advantage of them and not appropriate their knowledge, their willingness to exchange foreign knowledge with colleagues in the venture should increase (Levin & Cross, 2004), which in turn enhances the likelihood that new foreign knowledge benefits the entire venture. Trust creates a sense of security that knowledge will not be exploited beyond what is intended (Rousseau et al., 1998). Thus, when internal relationships are marked by high trust levels, managers are more concerned with how new foreign knowledge can benefit their venture's overall international presence, rather than their personal interests (Zaheer et al., 1998).

In addition, trust reduces the costs of assimilating new foreign knowledge (Lane, Salk, & Lyles, 2001). When relationships among managers involve beliefs in others' goodwill, the need to monitor others' behavior decreases (Bstieler, 2006), such that time can be more productively devoted to combining new foreign knowledge with the venture's existing knowledge base (Zaheer et al., 1998). Trust also enhances the integration of sensitive or confidential foreign knowledge, because the perceived risk of opportunism by colleagues diminishes (Bstieler, 2006; Yli-Renko, Autio, & Sapienza, 2001). For example, in conditions of high trust, managers likely provide insights into possible challenges or failures that they encountered in their foreign activities (Argote, 1996), and the entire venture can benefit from such insights and leverage them to enhance its international competitive position. Finally, trust is important for integrating foreign knowledge that is tacit in nature (Dhanaraj, Lyles, Steensma, & Tihanyi, 2004; Szulanski, 1996). Such knowledge is more difficult to interpret and exploit, but enhanced comfort in interacting with trusted colleagues makes tacit foreign knowledge easier to understand, assimilate, and apply to profitable ends (Uzzi, 1997).

*H3: The positive relationship between ventures' international learning effort and international performance is moderated by trust, such that the relationship is stronger at higher levels of trust.*

We also hypothesize that the aforementioned moderating role of intrafirm trust is particularly strong in conditions of high market turbulence, which would suggest a three-way interaction among international learning effort, trust, and market turbulence. Akgun, Byrne, Keskin, Lynn, and Imamoglu (2005) argue that in highly turbulent markets, more advanced *internal* coordination mechanisms are required to accommodate new trends and preferences among key stakeholders. Such coordination mechanisms in turn are more easily applied to leverage organizational knowledge when managers make themselves vulnerable, such as when they trust their colleagues, because trust diminishes the risk that colleagues will opportunistically exploit shared knowledge (Dayan et al., 2009; Zaheer et al., 1998). Similarly, the positive role of trust in leveraging international learning efforts toward enhanced performance in foreign markets should have greater incremental importance when the venture operates in more turbulent markets.

In conditions of high market turbulence, managers also tend to experience stronger

pressure from their organization to be flexible and adapt their current skill sets to accommodate new external circumstances (Kim & Atuahene-Gima, 2000). Such pressure in turn increases the likelihood of conflict in the venture's ranks (Dayan, 2010), such as fights about which elements of the acquired foreign knowledge should be applied to accommodate environment uncertainty or the best process for such knowledge application (Eriksson et al., 1997; Sapienza et al., 2005). However, when managers have high trust, these challenges should be mitigated by the strong internal cohesion that trust prompts (Simons & Peterson, 2000) and the increased ability to resolve conflicts (Parayitam & Dooley, 2007). Thus, in conditions of high market turbulence, trust is a particularly important enabler that translates international learning efforts into enhanced international performance.

*H4: The interaction effect of ventures' international learning effort and trust on international performance is moderated by market turbulence, such that the interaction effect is stronger at higher levels of market turbulence.*

### **3. METHOD**

#### **3.1. Sample and Data Collection**

We randomly selected a sample of 800 international ventures located in southeastern coastal areas of China (Zhejiang and Fujian Provinces) from a database held by the Provincial Administration for Industry and Commerce. Southeastern regions play an important role in China's economy reform and development, as well as its increasing globalization. The sampled ventures each met three criteria: They were engaged in international activities, such as exporting, importing, or any other foreign market entry mode; they were privately-owned and thus not subsidiaries of foreign corporations or state-owned enterprises; and they had less than 500 employees.

Using information available in the database, we identified two senior managers as key informants for each of the ventures, ensuring that they possessed well-rounded knowledge about the venture's international activities and its overall functioning. An interviewer made an appointment with each key informant for an onsite interview; before each interview, this interviewer guaranteed the respondents' complete confidentiality and explained the academic purpose of the study. The two respondents in each venture were interviewed independently. The questionnaire was originally prepared in English and then translated into Chinese. To avoid cultural bias and ensure validity, the Chinese version was back-translated into English (Brislin, Lonner, & Thorndike, 1973), to identify any misunderstandings that might have arisen due to translation. A preliminary version of the questionnaire was pretested with 10 executives. The feedback from these executives was incorporated into the revised version of the questionnaire. This procedure helped us to increase the readability of the questions and the quality of the collected data, an issue that is particularly important for surveys conducted in emerging economies (Peng & Luo 2000). The data collection was undertaken from February to June 2011. Data were collected from two senior managers in 162 ventures. The participating ventures were relatively young; on average, they had been in business for seven years, and 85% were established within ten years or fewer. To assess nonresponse bias, we compared early with late respondents and found no significant differences in the study's constructs between the two groups (Armstrong and Overton 1977).

#### **3.2. Measures**



The measures for the constructs all came from previously validated scales. All items were measured on five-point Likert scales, ranging from 1 (strongly disagree) to 5 (strongly agree). In line with our research focus, the questions in the survey were worded to capture phenomena that take place at the venture level rather than at the level of the individual manager. To avoid common method bias, the dependent variable on one hand and independent, moderator and control variables on the other were assessed by a different informant.

**3.2.1. International performance.** The measure of international performance included four indicators to assess the venture's performance outside China on dimensions such as its international sales growth and international market share growth (Park & Luo 2001; Zhou, Wu, & Luo, 2007). For each indicator, respondents assessed their venture's international performance relative to its principal competitors (Cronbach's alpha = .89).

**3.2.2. International learning effort.** Drawing from previous research (Eriksson et al., 1997; Sapienza et al., 2005), we measured international learning effort with seven items capturing the extent to which the venture developed new knowledge with respect to the competitive and institutional environment of its foreign markets, as well as procedures and systems in relation to these markets (Cronbach's alpha = .86).

**3.2.3. Market turbulence.** Three items measured the level of market turbulence in the venture's industry (Jansen et al., 2006). They included a measure of whether environmental changes in the industry were rapid and frequent and whether the volumes of products and services to be delivered changed fast and often (Cronbach's alpha = .74).

**3.2.4. Trust.** We used four items to assess the level of intrafirm trust, adapted from previous research on interpersonal (Rempel, Holmes, & Zanna, 1985) and interfirm (De Clercq & Sapienza, 2006) trust. Respondents indicated, for example, whether colleagues in the venture keep their promises and whether they avoided taking advantage of others, even if the opportunity arose (Cronbach's alpha = .85).

**3.2.5. Control variables.** We included several control variables to account for alternative explanations for variations in the venture's international performance. First, to control for the venture's slack resources (Audia & Greve, 2006), we included *venture size*, calculated as the logarithm of the number of full-time employees, and the level of *foreign sales*. Second, because the timing of first internationalization may influence the venture's performance in foreign markets (Autio et al., 2000), we controlled for its *age at first foreign entry*.

## 4. ANALYSIS AND RESULTS

### 4.1. Assessment of Measures

We undertook confirmatory factor analyses (CFA) of a measurement model that included the four focal constructs. All factor loadings were greater than .40, the normalized residuals less than 2.58, and modification indices less than 3.84 (Anderson & Gerbing, 1988). The significant factor loadings ( $t > 2.0$ ; Gerbing & Anderson, 1988) provided evidence of the convergent validity of the scales. We also found strong evidence of discriminant validity in that (1) significant differences emerged between the unconstrained and constrained models (Anderson & Gerbing, 1988) for all six pairs of constructs, (2) none of the confidence intervals for the correlations between these

construct pairs included 1.0 ( $p < .05$ ) (Anderson & Gerbing, 1988), and (3) the average variance extracted (AVE) estimates of the constructs were greater than the squared correlations between corresponding pairs of constructs (Fornell & Larcker, 1981).

#### 4.2. Regression Results

Table 1 contains the correlations and descriptive statistics, and Table 2 provides the regression results. Model 1 includes the control variables, and Model 2 adds international learning effort, market turbulence, and trust. In turn, Models 3 and 4 add the international learning effort  $\times$  market turbulence and international learning effort  $\times$  trust interactions, respectively. Model 5 adds the three-way interaction (international learning effort  $\times$  trust  $\times$  market turbulence), together with its three underlying two-way interactions, as recommended by Aiken and West (1991).

Table 1: Correlation table and descriptive statistics (N = 162)

	1	2	3	4	5	6	7
1. International performance							
2. International learning effort	.347**						
3. Market turbulence	.126	.193*					
4. Trust	.252**	.249**	.235**				
5. Firm size	.078	.025	.003	.079			
6. Foreign sales	.113	.092	.203**	.112	.031		
7. Age at first foreign entry	.035	-.163*	-.092	.217**	.092	-.094	
Mean	3.745	3.714	3.739	3.936	136.244	5,567	1.445
Standard deviation	0.830	0.657	0.764	0.699	111.530	13,631	1.880

\*\* $p < .01$ . \* $p < .05$ .

Our findings in Model 2 support Hypothesis 1: International learning effort related positively to international performance ( $\beta = .391$ ,  $p < .001$ ). Models 3 and 4 further confirm the invigorating effects of market turbulence ( $\beta = .460$ ,  $p < .001$ ) and trust ( $\beta = .331$ ,  $p < .05$ ). Thus, the effectiveness with which international learning efforts transform into enhanced international performance increases when the venture operates in more turbulent markets (Hypothesis 2) and is characterized by high levels of trust among its managers (Hypothesis 3). To better understand the nature of these interactions, we plot the effects of international learning effort on internal performance for high and low levels of market turbulence (Figure 2A) and trust (Figure 2B). The plots suggest that the international learning effort–performance relationship is attenuated in conditions of low market turbulence and trust.

Table 2: Regression results (Dependent variable: International performance) (N = 162)

	Model 1	Model 2	Model 3	Model 4	Model 5
Firm size (log employees)	.052	.055	.070	.057	.075

Foreign sales	.015	-.006	-.021	-.023	-.019
Age at first foreign entry	.013	.017	.018	.019	.022
H1: International learning effort		.391***	.380***	.360***	.325**
Market turbulence		.015	.031	.035	-.059
Trust		.180 <sup>+</sup>	.209*	.189 <sup>+</sup>	.171 <sup>+</sup>
H2: International learning effort x Market turbulence			.460***		.283*
H3: International learning effort x Trust				.331*	.130
Market turbulence x Trust					.198
H4: International learning effort x Market turbulence x Trust					.362*
R <sup>2</sup>	.007	.149	.224	.178	.255
R <sup>2</sup> change		.142***	.075***	.029*	.106***

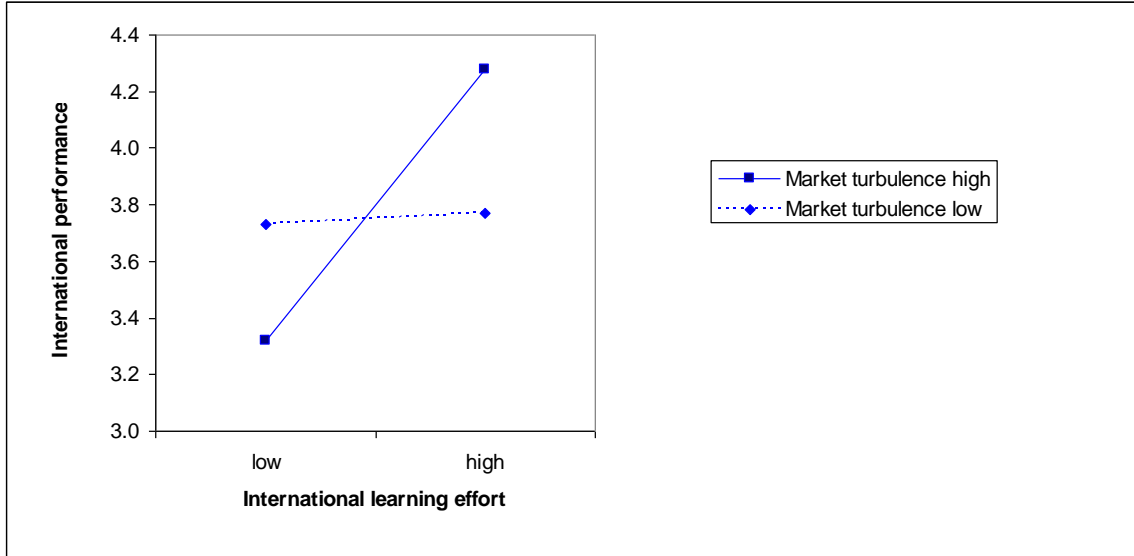
Note: Unstandardized coefficients (two-tailed p-values).

\*\*\* $p < .01$ . \*\* $p < .01$ . \* $p < .05$ . <sup>+</sup>  $p < .10$ .

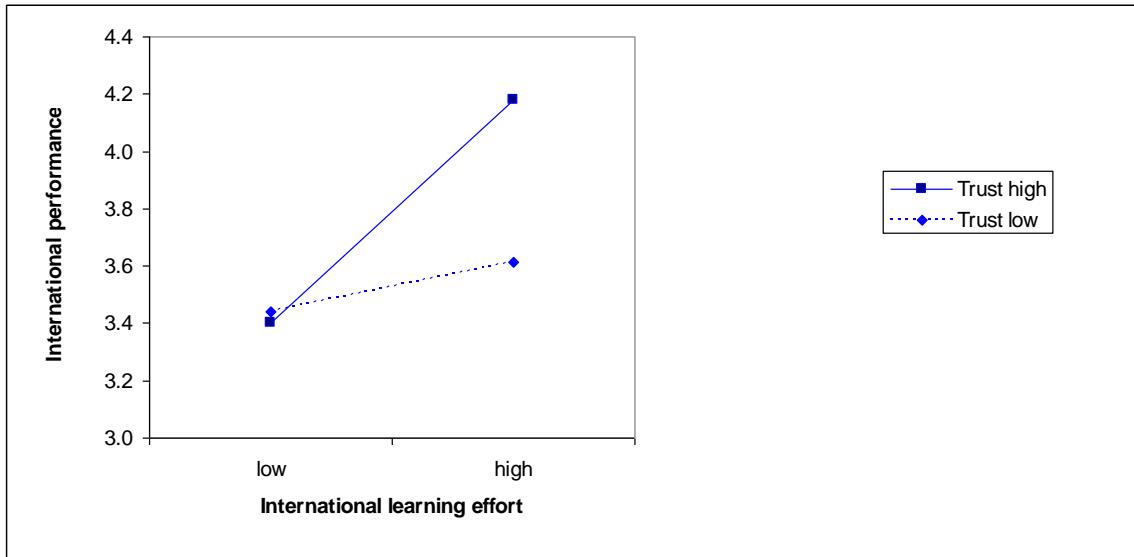
Finally, we find support for Hypothesis 4 in the positive three-way interaction of international learning effort, trust, and market turbulence in Model 5 ( $\beta = .362$ ,  $p < .05$ ), because the moderating effect of trust on the international learning effort–performance relationship grew stronger at higher levels of market turbulence. To clarify this interaction, we plot the moderating effect of trust at high versus low levels of market turbulence (Figures 3A and 3B, respectively). In line with our expectations, the difference in slope of the international learning effort–performance relationship between the high versus low trust conditions was much more pronounced for high rather than low market turbulence. Thus, trust invigorates the exploitation of learning efforts to achieve enhanced performance, but more so in turbulent market conditions.

**Figure 2: Two-way Interaction Effects**

**A. Market Turbulence on International Learning Effort–Performance Relationship**

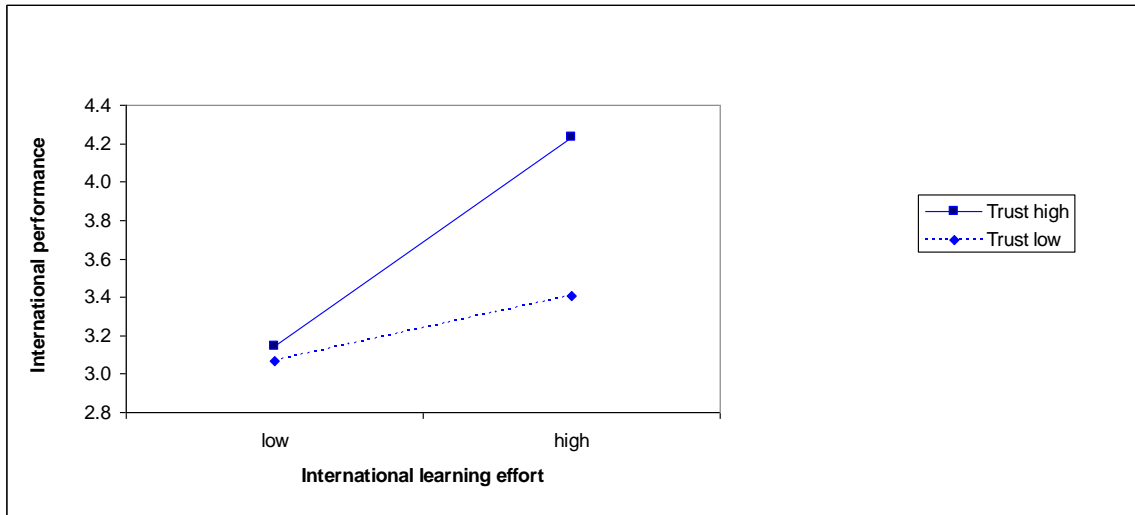


**B. Trust on International Learning Effort–Performance Relationship**

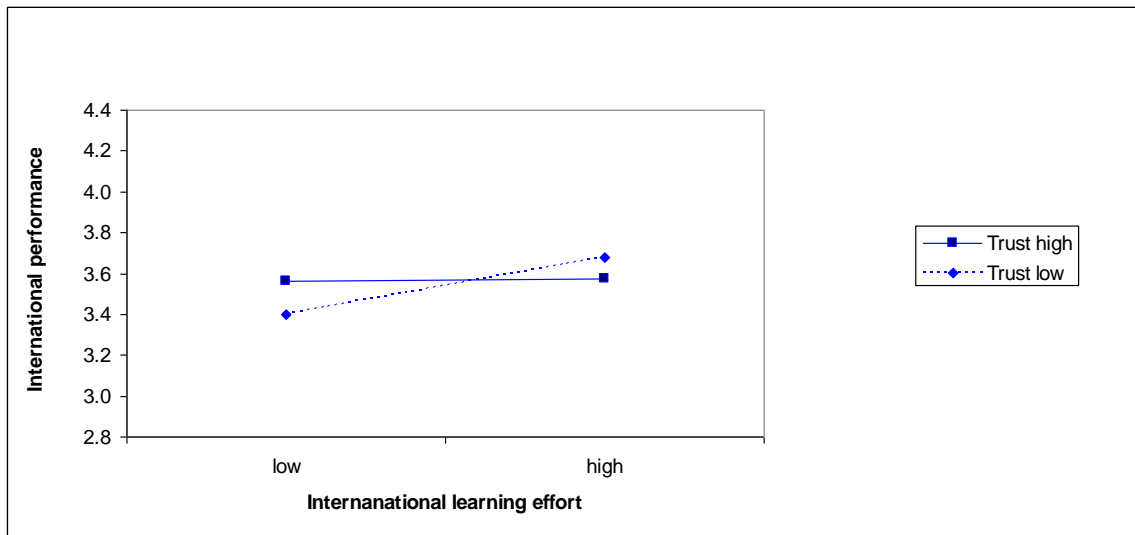


**Figure 3: Three-way Interaction Effect**

**A: Trust on International Learning Effort–Performance Relationship at High Market Turbulence**



**B: Trust on International Learning Effort–Performance Relationship at Low Market Turbulence**



## 5. DISCUSSION

### 5.1. Discussion of Results

To gain a better understanding of how ventures' learning activities in foreign markets increase their international competitive advantage, we investigate the relationship between the intensity of their international learning efforts and their international performance. Our study thus contributes to the scholarly conversation about the role of knowledge in the outcomes of firms' early internationalization (Cumming et al., 2009; De Clercq et al., 2012; Sapienza et al., 2006; Zahra et al., 2000). We also explicate how the effectiveness of international learning efforts depends on both external and internal conditions. Ventures enjoy higher international performance to the extent that they invest more energy in developing new foreign knowledge, but external market turbulence and internal trust function as critical enablers of this process.

First, international learning efforts are more instrumental for increasing international performance in turbulent than in stable markets. Market turbulence brings about unpredictability in the venture's operations—including its exposure to fluctuating consumer needs, market demands, and competitor strategies (Jaworski & Kohli, 1993; Hult et al., 2007; van de Vrande, Vanhaverbeke, & Duysters, 2009). Extant research indicates that market turbulence plays a significant role in the success of firms' strategic efforts (Zahra & Bogner, 1999), particularly if such efforts imply learning and knowledge renewal (Kim & Atuahena-Gima, 2010). Our study finds support for this argument in the context of early internationalization: International ventures that are continuously on the lookout for new foreign knowledge are better equipped to reduce the uncertainty and complexity that comes with turbulent environments (Hult et al., 2007; Jaworski & Kohli, 1993) and thus ensure a more appropriate fit between their learning efforts and the broader market arena in which they compete (Mu & Di Benedetto, 2011). In contrast, in conditions of low market turbulence, the costs of making significant resource investments to undertake significant learning efforts in foreign markets counters the benefits of such efforts (Huber, 1991).

Second, the presence of trust among the venture's managers facilitates the exploitation of international learning efforts toward enhanced performance. Learning theory suggests that the effectiveness of any learning effort depends on the venture's capability to absorb new knowledge into its existing knowledge base (Fernhaber et al., 2009; Zahra & Hayton, 2008). A critical enabler of such absorption is the extent to which intrafirm exchanges are governed by trust (Lane et al., 2001). Our findings suggest that trust can eliminate the need for safeguarding mechanisms by facilitating foreign knowledge assimilation and the likelihood that new foreign knowledge is exploited to the benefit of the entire venture (Currall & Judge, 1995). This finding is in line with general international business literature too, such as research that shows how trust between international joint venture parent firms contributes to effective knowledge exploitation, because each party has confidence that the other firm will not take advantage of its goodwill to share relevant information (Lane et al., 2001).

Third, an additional insight of this study is that the enabling role of trust is particularly strong in turbulent markets. Market turbulence brings about heightened complexity in a venture's operations (Jaworski & Kohli, 1993); trust enhances the quality of intrafirm knowledge exchanges and thus can unravel such complexity (Nahapiet & Ghoshal, 1998). That is, the culture of open knowledge sharing that marks trust-based interactions (Atuahene-Gima and Murray, 2007) makes managers more likely to make

suggestions about how to match turbulent external conditions appropriately with the knowledge that the venture has acquired through its foreign learning activities.

## **5.2. Limitations, Future Research, and Practical Implications**

We acknowledge that our study has some limitations, whose consideration offer opportunities for further research. First, the cross-sectional nature of our data requires caution before drawing causal inferences, because the relationships we examine may be susceptible to reverse causality. Although the study's hypotheses were grounded in extant theory, managers in highly performing ventures may have more slack resources available to expend extensive efforts and learn about foreign markets, unlike colleagues in lower performing ventures (Audia & Greve, 2006). Therefore, further research could use longitudinal designs to elucidate the long-term causal processes that link international learning effort with performance, as well as how the contingency factors studied herein influence this process.

Second, for parsimony, we focused on two contingency factors that influenced the relationship between a venture's international learning effort and performance. Additional research could investigate how other external conditions, such as the level of competitive rivalry (Jaworski & Kohli, 1993), and internal influences, such as the nature of the venture's rewards policy (Collins & Clark, 2003), shape the learning effort–performance relationship in foreign markets.

Third, our results are based on international ventures in China. Although our theoretical arguments were general and not country-specific, cultural factors could interfere with our conceptual framework. For example, it may be that in a collectivistic country, such as China, in which trust-based relationships are highly regarded (Hofstede, 1991), the potency with which trust converts learning efforts into enhanced performance outcomes is stronger than it would be in more individualistic countries. Cross-country studies could provide additional insights into the relative importance of external and international conditions that help leverage international learning effort into performance across different institutional and cultural contexts.

From a practical perspective, this study shows that to reap the benefits from their learning efforts in foreign markets, international young ventures must consider both the external context in which they compete and the internal organizational context, for the advantages of their efforts to outweigh their costs (Huber, 1991; Sapienza et al., 2005). The allocation of significant efforts to international learning activities provides a fertile ground for enhanced performance in foreign markets, but this process may encounter various challenges. For example, converting learning efforts into outcomes that benefit the entire venture may be hampered to the extent that the venture's current relational obligations with domestic partners prevent full managerial commitment to integrating the new foreign knowledge into the existing operations (Autio et al., 2000). Further, managers whose current power base and political turf are mostly derived from the venture's home-based activities may consider knowledge about new foreign markets threatening rather than as an opportunity (Sapienza et al., 2006). These challenges are likely to be most salient when the venture's external environment is more stable and predictable, and when its managers believe that their colleagues cannot be trusted.

Our examination of the contingency effects of market turbulence and intrafirm trust on the successful implementation of international learning efforts thus recommends

that ventures match their learning focus with appropriate external and internal circumstances. It highlights the importance for the venture's top management to make senior managers aware of the constant flux that may characterize their external markets, such that the managers become strongly motivated to leverage new foreign knowledge into outcomes that benefit the entire venture. Young international ventures can also benefit more from their international learning endeavors if they promote trust building in intrafirm interactions, particularly when the venture competes in turbulent markets. Thus, when appropriate internal relational arrangements are in place—such that managers can be less fearful that colleagues will “steal” their newly acquired foreign knowledge or that foreign knowledge brought in by others will undermine their own political turf (Autio et al., 2000; Sapienza et al., 2006)—the incremental contribution of international learning activities to the venture's performance should increase dramatically. To create and foster a strong trust-based culture, the venture could use various strategies for interpersonal trust building, such as promoting fairness in the performance reward system for individual managers (Greenberg, 1990). Stimulating a strong commitment to the venture's international goals—such as by clearly defining and effectively communicating goals and valuing each manager's contribution to them (Ketokivi & Castañer, 2004)—also can create an environment of free expression and knowledge exchange within the venture's ranks, such that the successful exploitation of international learning efforts should become more attainable.

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## **Exploration of the Extent of Brand Development Activities Employed By Small Businesses – A Case of Blueberry Farm**

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### **ABSTRACT**

This research is to explore the extent of brand development activities employed by small businesses. This study utilizes qualitative method in obtaining data from a blueberry farm in Alabama. The core research question of this study is: To what extent of brand development activities does this firm employed? This study contributes to the literature in the branding and marketing areas. It provides in-depth understanding of the brand building activities that are actually employed by the small business. The findings of this research can form a basis for future quantitative research as well as managerial implications for marketers or managers of similar businesses.

Keywords: Brand Image, Positioning, Brand Elements, Brand Concept Management

### **1. INTRODUCTION**

Small businesses are very important to the U.S. economy as they represent 99.7 percent of all employer firms, estimated to equal 27.9 million, and created 64 percent of net new jobs in private sector in 2010, according to the U.S. Small Business Administration Office of Advocacy (2012). The success of any given business depends upon many factors, and one of the crucial areas that warrant much attention is branding. A well-managed brand is more likely to success than a poorly managed brand. Despite the large amount of research in the existing literature that are related to branding, little is known about branding activities employed in the small business sector. Therefore, this study is attempting to address this gap in the literature. Research questions of this study include (1) what is the brand image that the owner wants to portray and the image that the consumers perceive (2) what is the brand's positioning strategy, including its strengths and weaknesses (3) what are the brand elements, how did the brand owner come up with these brand elements, and what are the meanings of these brand elements (4) what are the brand communication strategies (5) what are the methods used to obtain customers' feedback (6) what are the challenges and opportunities of the brand in the future.

### **2. CASE DESCRIPTIONS**

The study utilized semi-structured in-depth interview. The sample of this study was a blueberry farm owner who is a retired high school counselor. He started planting his farm around 20 years ago and has been commercially grown blueberry for about 12 years. He currently has approximately 40 acres of blueberries.

Most of the farm's customers are family-based and are very loyal. According to the interviewee, these customers come back every year. Based on his estimation, the U-pick

customers (customers who pick blueberries by themselves) are above average in socio-economic status, and we-pick customers (owner picks for the customers) tend to be wealthier as they are often too busy to come to the farm to pick. Those who come to the farm (U-pick customers) consider coming to the farm and picking blueberries as family recreation. Most of them are local customers; however, there are also some who come from adjacent states. In addition to individual customers, the interviewee sells his blueberries as wholesales to retailer such as Winn-Dixie, a co-op in north Georgia, and habitat for humanity.

The interview was conducted at the interviewee's farm and the duration of the interview was around 100 minutes. Agreement for audio recording the entire interview was obtained and the interviewee was assured that his identity will remain confidential in the analysis and reporting of the results.

### **3. FINDINGS**

#### **3.1 Brand Image and Positioning**

According to brand concept management (Park, Jaworski, & Macinnis, 1986), brand concept can be categorized based on the type of consumer needs the brand wants to satisfy. Functional needs are "those that motivate the search for products that solve consumption-related problems" (Park et al., 1986). Symbolic needs are "desires for products that fulfill internally generated needs for self-enhancement, role position, group membership, or ego-identification" (Park et al., 1986). Experiential needs are "desires for products that provide sensory pleasure, variety, and/or cognitive stimulation" (Park et al., 1986). Built on this conceptualization, the interviewee's brand has a combination of experiential (fun) and functional (health) brand concept. Consider the following quotes: "I think that people have an image of ... fun, [blueberries] are like candy, healthy candy, ... I am really promote health ... being good to yourself and having good experiences, it's fun to eat, it's fun to pick."

He further maintained that the image that he is trying to portray and the image that the customers see his brand are very similar. The following verbatim is what he said when the interviewer asked him about his customers' brand image: "I would say yeah, they're pretty much into what I try to portray and what they perceive is very similar, very consistent with what I'm trying to create with the farm, the healthiness ..."

The interviewee deemed the other local blueberry farms as his direct competitors. Non-product attributes as well as product attributes are important in distinguishing the brand and the competitors. He positioned his brand as having lower price (non-product attribute) than Farm A and higher price than Farm B, and he maintained that his price is very competitive. Evidence of this came through the following verbatim: "Farm A, is probably the local competitor ... Farm B, he's got a small farm...his price is less than mine. But, mine are less than Farm A's, he doesn't have as many [blueberries] as I do, but he's got other fruits and vegetables ..." "I'm very competitive on prices ... but I considered the wholesale because I'm selling by the gallon not by the pint, I don't sell by the pint other than on a retail market..."

The other competitive advantage about his brand is the taste (product attribute). Although he has not tasted his competitors' blueberries, his friends and customers who had tried blueberries from the other farms told him that his blueberries are better. The

following verbatim demonstrates this: “A lot of people would tell me that I have the best blueberries ... I’m telling you the truth, they go [to] my competitors ... they say mine are the best. ... a friend of mine had got some berries here last year he said mine were better.”

Beside these direct local competitors, blueberries that are sold in the retail stores are his competitors too. However, freshness is his competitive advantage over these blueberries as he said a lot of the blueberries sold in the stores are imported from other countries. “Sometimes I buy it in the store or look at them in the store and I know my berries are better than a lot of those because they come from Chile... nobody can be as fresh [as mine]”, he said confidently.

One of the weaknesses of the interviewee’s brand is product offerings. His farm offers only blueberries but his competitor has other crops. In order to increase competitiveness, he tried to grow other crops that could help extend the season and increase the variety of his offerings. This is illustrated in the verbatim below: “it's kind of a mono crop, ... when they come here it's pretty much gonna be blueberries, I tried to expand some other things, like what I call salad type crops, tomatoes, lettuce, and with the draught stuff it wasn't a good year. I built on a green house, a small green house to start my plants and extend my season, I may get into that more so once people here with blueberries that they can get tomatoes and other things.”

The other weakness is keeping his marketing communication tools up to date. He stated that his brochures and website need to be updated more frequently in order to provide up-to-date information to the customers. Since he does not have any employee, he has to do everything from planting to marketing all by himself. Thus, he does not have extra capacity to update his brochures and website.

### **3.2 Brand Elements**

The brand name consisted of two elements. The first element is the product (i.e. blueberry) because the interviewee wanted people to know what he is selling by looking at the name. The second element is his last name, which means a safe place. His farm is located at the hillsides and he wanted to convey that his farm is a safe place with interesting landscape that is full with blueberries.

Although logo is one of the key elements that represent the brand to the public, the interviewee’s brand does not have a consistent logo. “I don't have a good logo”, he said. The brand does not have an image that represents it. The only consistency in writing the brand name is the color. He always use blue, as he said, “I think with blueberries I use a lot of blue ..., whenever I wrote Blueberry Havens it's in blue and on my return address label, is blue...”. Furthermore, the interviewee wants the brand name to be written in bold, traditional, and non-serif font style so that it will be easy to read. This is what he said, “easy to read... it's not a serif or a fancy type set. ... Where they can see it from the road, it's kind of a blocky looking”. The brand name appears on his business cards, brochures, and some of his recipe cards but it is printed or typed with different font style and color.

The brand owner does not pay much attention to the influence of product packaging on brand image, except when he sells to retailers. He uses regular bread bags for his U-pick customers. For we-pick customers, he put the blueberries in reclosable quart freezer bags and put them in recycled Wal-Mart or Kroger bags, and sometimes he buys

‘Thank you’ plastic bags if he is short of recycled bags. Product packaging apparently has been one of the brand elements that are neglected by the brand owner. The following verbatims imply that he does not see the importance of product packaging on his brand image: “When I pick the gallon, I put them into four of these [quart freezer bags]. When they pick a gallon, we put them in a bread bag, or they bring their own containers, it doesn't make any difference ...and I put them in ...Wal-Mart bags, Kroger bags...The little white or whatever color I can get the little ‘Thank You’ ones... sometimes I'll put them in there, when I'm short of the Wal-Mart bags. I figure that when a person, they have found it once, and they know, they either ask somebody about me or they get it from the website”

He sells by gallon to his individual customers but to the retailers, he sells by pint. He uses clear pint containers to put his blueberries in, and then he attaches a sticker with his brand name and contact information on the top of each container. Twelve pint containers will then be placed in a generic box with the word ‘blueberries’ printed on it.

The interviewee used to have a slogan, which says “best berries you have ever put in your mouth”. The slogan came from his customers; many of his customers told him that his blueberries were the best that they have ever had, so he had it on his business card. The use of slogan was limited to business card; he had not use the slogan in any other media such as advertising. As for the farm atmosphere, he had a signage showing the price of the blueberries. He also has a picnic table for people who want to have picnic in the farm.

### **3.3 Brand Communications**

The advertising media that the interviewee has used include TV ad, magazines, farm bulletins, newspapers, and website. The geographical coverage of these media spans from local to national. Most of the advertisements show only the brand name and contact information (phone number, address, and website). A 30-second local TV ad was used to convey the finest organically grown blueberry brand image and the adventurous and fun experience provided by the farm. Besides TV ad, a TV channel also featured the farm in one of their programmes.

He also advertises his farm in a lifestyle magazine. The editor from the magazine's food section customizes some blueberries recipes and she lists the farm as a recommended place to get fresh blueberries. This is a good way to promote his farm as readers will perceive it as higher credibility because they will think that the recipes are written by third party expert nutritionist. So if he/she thinks the blueberries from a farm are good, then it must be good.

The interviewee supports a charity organization, habitat for humanity, which in turn also helps promote the farm. He sells his blueberries to the organization at a very low price so that the organization can raise money from selling them at regular retail price. They set up tents in several places in the town to sell blueberries and distribute the interviewee's business cards. According to the interviewee, this has really helped in promoting his farm. The following verbatim is what he told the researcher during the interview: “That's a good way to promote my farm too, because he (organizer of the habitat) has my business card... if they want to buy a couple gallons they will get it from me... so that really promote...”



The farm also has a special activity every year on the 4<sup>th</sup> of July, and it is called “red, white and blue”. The interviewee will make some cherry jellos and top it with blueberries and whipped cream so there are red (jello), white (whipped cream) and blue (blueberries), and he will serve them free for customers who show up on that day. He did not advertise for this activity and it is just for fun, so he did not see much impact of the activity: “It wasn't that much [impact], it was just fun for the people that happen to show up that day ...I didn't make any money, I didn't charge for it.”

The interviewee has a website that communicates information about the farm, the owner, the farm history, blueberry season, price, driving direction, and contact information. It is a simple website with all the necessary information written in a clear manner without fancy design. The website serves the role of one-way communication where customers can find out information of the farm but cannot order the blueberries nor leave a comment on the website.

In order to communicate his brand concept and obtain customers' feedback, he will talk to his customers to inform them the way he grows his blueberries and ask for improvement suggestions. Using this opportunity, he will also ask the customers to spread the word about the farm and distribute his brochures to their friends. The following verbatims illustrate the points here: “If I had a chance to talk with them...[to let them know] how careful I'm about providing the best, safest, healthiest crop that they could possibly get... they know that so they come back year after year. I tell people if you enjoy out here be sure to tell your friends... I got some white [brochures] and I got blue ones, some people ask for the white because they will actually make copies with the white one...” “I count on my customers for the word-of-mouth, I always ask them to promote it...; if they don't like it, come and tell me, we'll fix it, so I listen to my customers...”

### **3.4 Challenges and Opportunities**

The major challenges of the business are crop risk, labor issue, and selling issue. Blueberries are very vulnerable to weather, especially freeze and drought during the flowering and producing period. When they are ripe and ready to be picked, too much rain will burst the berries. During the blueberry season, the owner always has difficulty in managing various tasks, including berries picking, inspection, packaging, and delivery. The third challenge is balancing the orders when the blueberries are in season. He said a lot of people want blueberries at the beginning of the season so he has to limit the orders. His way to deal with this is making installment delivery to ensure everybody gets their share.

He is currently working on his secondhand bookstore, and he plans to start this business soon. In addition to the blueberries and the bookstore, he is dreaming of building cabins at the farm so that his customers can stay at the cottage while enjoying the farm experience and the bookstore.

## **4. DISCUSSION/CONCLUSIONS**

The case of the present study is a farm business with no employee. The farm owner does everything from building greenhouse to farming and from taking phone calls to delivery by himself. Given this, brand building activities could not be done extensively. According to Keller (1993), brand image is conceptualized as the total impression of a

brand which is influenced by brand associations, and brand associations can be classified into three major categories of increasing scope: attributes, benefits, and attitudes. Attributes can be divided into product-related and non-product related. The interviewee focused heavily on product-related attributes, which include the sweetness and healthiness of his blueberries. He is also concerned about the price, which is a non-product related attribute and uses this attribute in differentiating and positioning his brand. Among the three types of benefits (functional, experiential, and symbolic) maintained by Park et al. (1986), the interviewee's brand focuses on functional benefits and experiential benefits. A brand with multiple concepts may generate confusion among the customers, have difficulty in positioning the brand consistently and managing the brand effectively because it competes with more brands, thus, the image/positioning may be less effective (Park et al., 1986). The brand image that the owner is trying to portray is fun and health. Health can be functional – healthy for the body, and experiential – healthy experience being in the nature and picking blueberries. Therefore, it might be difficult to establish a strong and immune positioning. Furthermore, the brand image (fun and health) can be a general image for most blueberry farms and it applies only to U-pick customers since other types of customer (i.e., we-pick customers, co-op, and retailer) do not have a chance to experience the farm. Hence, if the owner can develop a more unique and specific image which can apply to all types of customers, he may be able to achieve a stronger positioning. In fact, his current positioning strategy is solely based on price and variety. Throughout the conversation, he did not mention how he uses his brand image to differentiate his brand from the competitors.

There are three channels to communicate brand meaning as addressed in the literature. It can be communicated through brand name (Keller, Heckler, & Houston, 1998), brand mark (Henderson & Cote, 1998), and slogan (Kohli, Leuthesser, & Suri, 2007). Wanke, Herrmann, and Schaffner (2007) found that brand names are used as diagnostic cues and legitimate search attributes by consumers. The brand name of the case in this study provides an explicit cue for consumers. It contains the product name and a heuristic cue of the brand image. Among the three elements, only the brand name is consistently used by the interviewee. Since brand elements can influence brand awareness and brand image through recognition, recall, and associations (Kohli et al., 2007), the brand may suffer from difficulty in achieving high awareness and effectively conveying brand identity without a logo. Slogan can serve as a straightforward and explicit means in presenting a brand's identity and increasing brand awareness (Kohli et al., 2007). However, the interviewee was not aware of the advantages of having a good slogan. He did not use his slogan extensively in promoting the brand.

Underwood (2003) argued that product packaging plays a powerful role in influencing brand. Apparently the interviewee did not understand the influential role of product packaging. Among the atmospheric elements stated in the literature, signage and ambient condition suggested by Bitner (1992) are factors that the interviewee uses to create the atmosphere of his business environment. He has picnic table and signage to show the price of the blueberries.

The brand communication tools that are utilized by the interviewee include TV ad, magazines, farm bulletins, newspapers, and website. If the process of marketing communication is well managed and integrated, synergistic effect can be obtained. The findings from this study show that the marketing communication activities were not planned in light of the brand image that the owner is trying to express. Furthermore, the

information shown in most of communication contain only brand name and contact information. The brand image was not communicated extensively and effectively. The interviewee depends heavily on his customers' word-of-mouth to promote his brand. Word-of-mouth can be the most influential pitch but it is also the most uncontrollable means in communicating a brand. The interviewee has two special activities, one is supporting a charity organization, and the other is holding a red, white and blue event on July 4th. Although he claimed that there was no impact for the red, white and blue event, literature suggests that through special events, the emotional bond between the customers and the brand can be strengthened and thus increase the brand's sustainable competitive advantage (Pitta, 2007).

The core concept to brand building is to plan the brand communication strategies at the beginning of the branding process, starting from creating the brand identity, planning the communication strategy based on the brand identity and making sure each tool complement one another, having interactivity between the brand and the customers, and maintaining strategic consistency among the different media. The ultimate goal is to increase brand equity through brand awareness and brand image (Madhavaram, Badrinarayanan, & McDonald, 2005).

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## Exploring the intention of OIC Food Manufacturer in accepting Malaysia as Global Halal Hub

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### ABSTRACT

The paper aims to broaden the understanding of the determinants that influence the Organisation of The Islamic Conference (OIC) food manufacturers' intention to accept Malaysia as Global Halal Hub. With a sample of 100 manufacturers the data obtained from the survey were analysed with descriptive and chi-square test. The results indicate that country of origin, religion of country owner and level of company either being operated in national, multinational or both gained from company profile positively influence the OIC Food Manufacturer in accepting Malaysia as Global Halal Hub. Overall acceptance of manufacturers for Malaysia is more than other countries but the acceptance level varies due to different factors. This study suggests that Malaysia can develop effective marketing program and strategies to influence OIC manufacturers more positively. A particular emphasis can be placed on Malaysia's political geography, international affairs compared with other OIC members by incorporating advanced technologies.

Keywords: intention, food manufacturer, Halal, OIC, Global Halal Hub

### 1.. INTRODUCTION

Malaysia as a member of the Organization of Islamic Conference (OIC) has aspirations to be the Halal Hub for the OIC member's countries. This campaign has been going on for the last 5 years and no consensus has been made as yet on Malaysia proposal although several meeting and exhibition have been organized by Malaysia to sell the idea. In order to show that Malaysia is serious about being the Global Halal center, a sprawling Halal distribution hub have been built at a duty-free transshipments zone in Southern Johor state and on the busy Malacca Strait. The facility includes a "one-stop" centre for Halal certification to lure manufacturers to export from the center to other Muslim countries all over the world. This move is currently being supported by most of the OIC countries members, but other countries such as Turkey and Pakistan are also starting to show their interest in promoting their own Halal logo plus their country to be used among the OIC members as Halal Hub as well. There is still not enough evidence to shows that to what extent the industry players from the OIC member countries are willing to accept and acknowledge Malaysian to be the Global Halal Hub. Thus it is inevitable to gauge the level of acceptance of Malaysia as Halal hub from the OIC food producers' and food manufactures perspective.

## 2. JUSTIFICATION

There are several literatures on acceptance of Malaysian Halal Logo among consumers. However this study will focus on the acceptance of Malaysia as Halal Hub among the OIC food manufacturers. The results of the study will give some inside about the perception of the OIC food manufacture with regards to Malaysian to become the Halal Hub for OIC and how Malaysia can position itself as the leader as Halal certification in the international arena as it political stability and economic and technological advancement could be an advantages for Malaysia to be the Global Halal Hub. Besides, Malaysia also has their own expertise and technology in Halal Development research as well as their location is strategic for international business.

## 3. METHODOLOGY

In the study, questionnaires have been distributed to 100 OICs food manufactures during 9<sup>th</sup> International Halal Showcase from 4 - 7 April 2012. The method used for the data collection was a face-to-face interview during Halal forum 2011 and Malaysian International Halal Showcase (MIHAS) 2011, using a structured questionnaire, with closed-ended questions. In total, 100 of OIC food manufactures were interviewed and participated in the survey. Most of them were either the company's owner or the CEO of the company in the OIC countries such as Turkey, Indonesia, Brunei and others.

The questionnaire was divided into two sections. The first part of the questionnaire included items measuring food manufacturers' acceptance of Malaysia as a Halal hub. Since Halal hub cannot be only considered to be an expression of the religious obligations, we therefore stressed the benefits of Halal hub within other contexts such as food safety, geographic location, strategic situation, political geography and advanced technology. Their intention to accept was measured on a seven-point attitudinal scale (on a scale of 1-7) ranging from "strongly disagree" to "strongly agree". Finally, relevant company profile such as company country origin, the level of company business involvement either national, multinational or both and also the owner religion were also recorded. Ten food manufacturers, producers, exporters and importers from 10 OIC countries fully responded to the questionnaires given. Descriptive analysis and Chi Square test were conducted in analyzing the data.

## 4. RESULT AND DISCUSSION

### *Descriptive Analysis*

The descriptive analysis will discuss the respondents and their company's profiles. Table 1 and Table 2 show clearly about the analysis. Respondents are CEOs, owners and managers in the selected companies. They are coming from States of The United Arab Emirates, Republic of Indonesia, Islamic Republic of Iran, Brunei Darussalam, People 's Republic of Bangladesh, Republic of Turkey, Kingdom of Saudi Arabia, Republic of Somalia, Arab Republic of Egypt and Malaysia. The manufacturer produced dairy products fats and oil, fruit based products, cereals, meats, sweets, drinks and beverages and others including honey, dates and pastries. Based on the survey that has been conducted, sixty (60) per cent of the food manufacturers are Muslims while remaining balance are Buddha's, Hindus, Christians and others. Sixty five (65) per cent of the respondents are holding position in middle level management including managers in marketing,

international business, promotions, exports and production, while thirty five (35) per cent are the company owners and CEOs. Middle level manager have significant influences on the decision making process compared to the upper level management. Out of 100 firms, 53 are Muslim based companies and 95 percent have Muslim workers and 73 percent of the companies export their products among OIC region. Seventy five (75) respondents are aware about Malaysia intention to become Global Halal Hub. Forty (40) respondents accept Malaysia to become the Global Halal Hub.

Table 1. Socio demographic profile of the respondents (n = 100)

<b>Characteristics</b>			
<b>Gender</b>	<b>Percentage</b>	<b>Education Level</b>	<b>Percentage</b>
Male	61	Diploma	13
Female	39	Degree	55
		Masters	31
		Certificate	1
<b>Race</b>			
Malay	18		
Chinese	11	<b>Position in the company</b>	
Indian	9	Upper level management	34
Others		Middle level management	65
Bengali	2	Lower level management	1
Arab	20		
Persian	10	<b>Age</b>	
Turkish	10	20-30	21
Somali	10	31-40	56
Egyptian	10	41-50	17
		Above 50	6

Table 2: Socio demographic profile of the food manufacturer's company (n = 100)

<b>Characteristics</b>			
<b>Country Origin</b>	<b>Percentage</b>	<b>Level of company involvement</b>	<b>Percentage</b>
<i>Asia Region</i>		Domestic	32
Malaysia	10	Multinational	36
Indonesia	10	Both of them	32
Brunei	10		
<i>Middle East Region</i>		<b>Type of food produced</b>	
UAE	10	Dairy	2
Iran	10	Fats and oil	2
Turkey	10	Fruit based	1
Saudi Arabia	10	Cereals	5
Egypt	10	Meats	8
Africa Region		Sweets	11
Somalia	10	Drinks and beverages	13
Somali	10	Mixed products	12
Egyptian	10	Others	46
<b>Company owner religion</b>		<b>Company structured based</b>	
Islam	60	Muslim	53
Buddha	12	Non Muslim	47
Hindu	7		
Christian	18		
Others	3		
<b>Type of ownership</b>			
Sole proprietorship	36		
Partnership	25		

Corporations	26
Cooperative	1
Others	12

### Chi- Square Analysis

The chi-square analysis was carried out to determine the relationship between variables which could influence the food manufacturers' acceptance on Malaysia as Halal Hub among the OIC region. The following hypothesis is formulated to determine the relationship between the company profile and the acceptance of Malaysia as Global Halal Hub,

H<sub>0</sub>: There's no significant different between the company profile and the willingness to accept Malaysia as Global Halal Hub.

The result of the chi square test indicate that some of the selected company profile variables have significant relationship with the food manufacturer's willingness towards accepting Malaysia as Global Halal Hub. The variables that were chosen in this study included type of ownership, the level of the company either domestic or international, type of food produced, the company owner religion, company country origin and company structured based whether they are Muslim or non Muslim company.

Table 3 shows the chi square results which were used to test whether there are significant differences between selected companies demographic characteristics and their willingness to accept Malaysia as Global Halal Hub. The result showed that a significant interaction was found between the level of the company and the willingness to accept Malaysia to be the Global Halal Hub. It shows that company that are currently exporting their products outside their own country more willing to select Malaysia to be the Global Halal Hub compared to those who operated domestically ( $\chi^2 = 8.110, p < 0.05$ ). Muslim owner were more willing to accept than Buddhist, Hindu and other religion owner ( $\chi^2 = 8.100, p < 0.10$ ). In term of company country origin, company that came from Asia region were more willing to accept compared than those who came from Middle East and North Africa region ( $\chi^2 = 42.758, p < 0.01$ ).

Table 3. Chi square value and willingness to accept Malaysia as Global Halal Hub

Variables	$\chi^2$
Type of ownership	1.852
Level of company	8.110 *
Type of food produced	7.696
Company Owner Religion	8.100 *
Company country origin	42.758 *
Company structured based	2.539

\*Significant at 1%, 5% and 10% level

## 5. CONCLUSION

This study is to investigate the willingness to accept Malaysia as Global Halal Hub among the OIC Food Manufacturers. It is important for both the country's policy



decision-makers and also the food manufacturers to know whether among the OIC food manufacturer's willing to accept or not Malaysia to be the Global Halal Hub. It is hoped that the findings of the study will answer several issues relating to perception of the food manufacturers and to add up the understanding of the determinants that influences manufacturers' intention to accept Malaysia as Global Halal Hub.

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## **Marketing Capabilities and Sustainable Firm Performance of Informal Social Micro-enterprises (ISMEs) in Developing Countries**

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Marketing capabilities (MC) and sustainable firm performance (SFP) of large and medium sized enterprise is well documented and focused, but little research has been done on micro-enterprise, especially in Informal Social Micro-enterprises (ISMEs). Thus, the aim of this paper is to explore and examine the marketing capabilities of ISMEs that could effect on sustainable firm performance within the context of a developing country like Bangladesh. Capability theory has been adopted to investigate and establish marketing capabilities. The model identifies five sub-dimensions under a MC dimension in antecedents' phase and a SEP dimension consists of three sub-dimensions in outcome phase. A mixed method research design was used. In the field study, data were obtained from eight ISMEs owners, three NGOs, and three Local Governments via one-to-one personal interview basis. Inductive and deductive logical thinking skills were applied to extract, classify, and cross examine of the data and dimensions. Then a quantitative approach was undertaken where questionnaire was developed and data were collected from 438 ISMEs owners. The collected data were analyzed using the partial least squares structural equations modeling (PLS-SEM). The analysis was revealed that ISMEs has some unique marketing capabilities compared to formal restaurant. This study introduces marketing capabilities concept to the field of ISMEs and find empirical support. Finally, this paper focuses future research directions and implications.

**Keywords:** Marketing Capabilities, Sustainable Firm Performance, Informal Social Micro-enterprises (ISMEs) Developing Countries

# Financial Management

13:00-14:30, December 15, 2012 (Room 4)

**Session Chair:** *Prof. Hela Miniaoui*

**1716: Determinants of Internet Financial Reporting Practices: Evidence from the UAE and Comparison with Global Best Practices**

*Hela Miniaoui*

*University of Wollongong*

*Peter Oyelere*

*UAE University*

**1712: Contingent Capital: The Case of COERCs**

*George Pennacchi*

*University of Illinois*

*Theo Vermaelen*

*University of Luxembourg*

*Christian C.P. Wolff*

*University of Luxembourg*

**1266: The Effects of Financial Crisis on Corporate Social Responsibility**

*Dominique Razafindrambinina*

*BINUS University*

**1719: A Dynamic Program for Valuing Corporate Bonds**

*Hatem Ben Ameur*

*HEC Montréal*

**1752: Information Asymmetry and Accounting Conservatism under IFRS Adoption**

*Christy Lu*

*Brock University*

*Samir Trabelsi*

*Brock University*

## Determinants of Internet Financial Reporting Practices: Evidence from the UAE and Comparison with Global Best Practices<sup>52</sup>

Hela Miniaoui<sup>a</sup>, Peter Oyelere<sup>b</sup>

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### ABSTRACT

The objective of the proposed study is to undertake an in-depth study of the Internet financial reporting (IFR) practices of UAE-listed companies and to compare them with global best practices. Particular attention will be paid to banking and finance companies. The findings of this study identify the size, the leverage, industry sector and profitability as the most important predictors of IFR adoption by UAE listed-companies. Larger companies with greater leverage are more likely to set up a website and use it for IFR than smaller less leveraged ones. The outcome revealed that 62 percent of IFR companies is from banking, investment & finance sector as well as and from the insurance sector. This is expected to have policy implications by drawing the attention of other sectors in the UAE to the benefits of using the Internet to facilitate fast and cost-effective communication of financial information.

Keywords - Internet financial reporting; Banking and finance companies; UAE

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**Contingent Capital: The Case of COERCs****George Pennacchi<sup>a</sup>, Theo Vermaelen<sup>b</sup>, and Christian C.P. Wolff<sup>c</sup>**<sup>a</sup>University of Illinois at Urbana-Champaign, Email: [gpennacc@illinois.edu](mailto:gpennacc@illinois.edu)<sup>b</sup>INSEAD, Email: [theo.vermaelen@insead.edu](mailto:theo.vermaelen@insead.edu)<sup>c</sup>Luxembourg School of Finance, University of Luxembourg, and CEPR,  
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August 2010, Revised February 2012

**ABSTRACT**

This paper introduces, analyzes, and values a new form of contingent convertible (CoCo), a Call Option Enhanced Reverse Convertible (COERC). Issued as a bond, it converts to new shareholders' equity if a bank's market value of capital falls below a pre-specified trigger. The COERC avoids the problems with market based triggers such as "death spirals" as a result of manipulation or panic. A bank that issues COERCs also has a smaller incentive to choose investments that are subject to large losses. Furthermore, COERCs reduce the problem of "debt overhang," the disincentive to replenish shareholders' equity following a decline. The low risk of COERCs should increase their appeal to risk-averse bondholders.

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## The Effects of Financial Crisis on Corporate Social Responsibility

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### ABSTRACT

Indonesia is as one of the worst affected countries by the global financial and economic crisis of 2007-2008. This research aims to analyze the effect of the financial crisis on corporate social responsibility and corporate financial performance both before and after the crisis in the Indonesian banking industry. The data used are the banking companies listed in the Indonesian Stock Exchange. Profit growth, return on assets (ROA), interest rates, and exchange rates before and after the global economic crisis are indicators of the level of corporate social responsibility. In the research, profit growth, return on assets, interest rates and exchange rates are expected to simultaneously affect corporate social responsibility in the Indonesian banking industry both before and after the global economic crisis of 2007 and 2008. The results confirmed that the corporate social responsibility of the Indonesian banking industry has been affected by the global financial and economic crisis. Corporate social responsibility exposure was related to exchange rates and interest rates before and after the crisis. The findings should prompt companies to understand the factors determining their social responsibilities and formulate strategic efforts to increase their exposure and, if necessary, carry out preventive actions to protect them.

Key words: Corporate Social Responsibility (CSR), Global Financial Crisis, Financial Performance

### 1. INTRODUCTION

The financial crisis of 1997-1998 struck Indonesia with a fierce intensity and caused the banking sector to collapse. Then a similar crisis came along in 2007-2008. In global economic crisis terms, the financial crisis was expected to influence the corporate social responsibility (CSR) exposure of the Indonesian banking sector. The central bank of the Republic of Indonesia, Bank Indonesia, requires all banks in the country to perform CSR. The central bank has provided the guidelines of CSR to bring all of the banks into line. Nowadays, CSR is not considered as merely a marketing gimmick any more but conversely it is concerning banks how they can get closer to the community and do their part for the environment (Ratnawati, 2000).

Although the term is quite familiar, there is no single comprehensive understanding of CSR. CSR for banks is actually a part of long-term banking strategy because old paradigms that have often been associated with banks, namely the pursuit of profit, and a blind eye to the surrounding communities are not relevant anymore. CSR for banks also

serves to maintain the banks' respective images in the eyes of their customers. A brand image which portrays a bank as environmentally friendly and caring about the local people will make the bank's operations smoother. And, in due course the bank will reap great yields in the form of increasing business profits.

The unclear link between CSR and profit growth, return on assets, interest rates, and exchange rates reflects the confusing views about banking CSR and its relationship with economic crises and financial performance. Previous research has shown evidence of positive effects of economic crises and financial performance on banks' CSR strategies, but the extent of the effect is not so clear. The record of monetary crises suggests that apparently good financial systems can fall when put under rigorous pressures such as the recent global turmoil (James et al, 2008).

This paper will shed some light on the effect of the recent crisis on Indonesian banking CSR. The findings of this study allows us to gain a deeper understanding of the the correlation between global economic crisis and corporate social performance within the Indonesian banking industry. Academically, this case serves as a basis for further study about the impact of crisis in different industries for both local and international academics. The academic community will also benefit from the findings on the effects of financial crises on CSR in Indonesia.

The rest of this paper is organized as follows. Section 2 introduces the literature review of the theoretical foundations on corporate social responsibility. The research methodology used in this study is outlined in Section 3. Section 4 presents the findings of the empirical analysis while Section 5 offers the conclusion of this study.

## **2.LITERATURE REVIEW**

Corporate social responsibility (CSR) is a form of regulation integrated into a company's own business model. Ideally, CSR policy should serve as a built-in, self-regulating mechanism in which the business will monitor and ensure compliance with legal, ethical standards, and international norms. The business will accept responsibility for the impact of their activities on the environment, consumers, employees, communities, stakeholders and all other members of the public. In addition, businesses will pro-actively promote the interests of society by encouraging the growth and development of the community, and voluntarily eliminate practices that harm the public sphere, regardless of legality. In essence, CSR is injecting the public interest into the company's deliberate decision-making, and respecting the triple bottom line: people, planet, and profit (Wood 1991).

Content analysis in CSR is a methodology or technique to draw conclusions objectively and systematically by identifying specific characteristics of any social responsibility activities performed by a company. CSR content analysis also considers scientific methodology to study text, and to determine the authenticity or worth of the social and philanthropic operations of a company. Specifically for the banking industry, many non-economic factors are affecting CSR such as government regulation, standard implementation, interest group pressure, and the company's own awareness. These factors are hard to measure and it is also difficult to accurately establish their relationship with CSR. The author utilizes economic indicators, pertaining to economic crises and financial

performance such as profit growth, return on assets, interest rates, and exchange rates and attempts to investigate their relationship with CSR.

According to Chariri and Ghozali (2003), profit is an increase in economic benefits for one accounting period in the form of income or assets increase or liabilities decrease resulting from an increase in equity that are not derived from their capital contributions. The notion of profit accounting policies is the difference between revenue and cost measurement. Income as a measure of the size of the increase depends on the accuracy of the measurement of income and expenses. So, in this case, the profit is only a matter of expression and not defined economically as well as a separate asset or liability (Chariri and Ghazali 2003).

Firm performance is the result of a series of processes at the expense of other resources. Profit growth is one of the parameters of a company's performance appraisal. It is calculated by subtracting the current period earnings from the profit of the previous period divided by the earnings of the prior period. Hackston and Milne (1996) found that profit growth was not correlated to the level of CSR disclosure. In contrast, Purushothajnan et al (2000), conclude that profit growth was significantly correlated to the quantity of CSR disclosure.

Return on Assets (ROA) is a profitability indicator of a company before leverage compared to similar companies in the industry (Cram, 2008). Because the figure for total assets of the company depends on the carrying value of assets, caution is required since the carrying value may not match the actual market value. ROA is generally used to compare the performance of financial institutions such as banks and insurance businesses, because most of their assets will have a carrying value that is close to their actual market value. For that reason it is not recommended to compare the ROA of banking and insurance industries with other industries. Patten (1991) showed a negative correlation between ROA and corporate social responsibility disclosure.

The interest rate - also referred to as the discount rate - is the rate of interest which a bank charges on the loans and advances that it extends to commercial banks and other financial intermediaries (Enders and Siklos 2001). Changes in the interest rate are often used by central banks to control the money supply. De Bonis (1999), stated that the global economic crisis has caused economic chaos because of the high cost of financing. In times of financial crisis, many banks lacked corporate clients that were ready to borrow money from banks, which further prevented businesses from running their daily activities in a cost-effective manner.

The exchange rate is the value of foreign currency in the currency's country of origin (Sullivan and Sheffrin, 2003). Njoroge (2009) cited De Bonis in saying that the negative economic crisis atmosphere has caused many companies with a role in global development - not only through capital investment, but also by investing in human capital and providing local people with the tools to drive their own economic development - were unable to pursue their corporate social responsibilities.

Financial scandals and the bankruptcy of the world's financial industry impacted upon managers and shareholders with vested interests. That situation has reinforced the view that the banking industry needs to focus on the broader concept of entrepreneurial income



with a long-term vision and give appropriate importance to stakeholders, people or groups who influence or are influenced by their activities (Becchetti et al, 2007).

Much literature is devoted to CSR and its relationship with financial performance, whereby positive effects of economic crisis and financial performance on banks' CSR strategies have been found, but the impact of the global financial crisis on CSR is deserving of particular focus.

The use of different methodologies and analyses, which are not always directly applicable to CSR, may explain the inconsistent results in addition to the confusion and complexity of this concept (Orlitzky et al, 2003). There is a lack of conclusive and unanimous opinion about the relationship between the CSR of the banking industry and financial performance and economic crisis measures. However, CSR in times of global economic crisis and bad financial performance might be a threat to the survival of a company and such a strategy would not be expected in times of uncertainty. Therefore, the author attempted to investigate whether there is a relationship between CSR disclosure before and after financial and economic crises (2007-2008).

### **3.METHODOLOGY**

The data used in the research are taken from several sources such as the annual reports of banking companies, the Indonesian Stock Exchange, the Indonesian Investment Board, Bank of Indonesia, and banking websites. The years studied were the fiscal years of 2007 and 2008, with annual reports being the main data source containing CSR disclosure and financial data before and after the global economic crisis.

The author aims to analyze the effect of financial and economic crises towards CSR in the Indonesian banking industry and to:

1. Analyze the effect of profit growth, ROA, interest rates and exchange rates simultaneously on CSR in the Indonesian banking industry before the crisis of 2007
2. Analyze the effect of profit growth, ROA, interest rates and exchange rates simultaneously on CSR in the Indonesian banking industry after the crisis in 2008

This paper attempts to prove that there would be positive impacts of the financial performance of companies caused by economic crises toward CSR in the Indonesian banking industry, with the following hypotheses:

H1: Profit growth positively affects CSR in the Indonesian banking industry before and after the crisis

H2: ROA positively affects CSR in Indonesian the banking industry before and after the crisis

H3: The interest rate positively affects CSR in the Indonesian banking industry before and after the crisis

H4: The exchange rate positively affects CSR in the Indonesian banking industry before and after the crisis

Ole Holsti (1969) offers a broad definition of 'content analysis' by stating that we could apply it as a methodology or technique to make objective and systematic conclusions, by identifying specific characteristics of the message of any social responsibility activities performed by a given company. With content analysis, there is a quantitative summary of

a message that relies on the scientific method and is not limited to the type of variable that can be measured or the context in where messages are created or presented. CSR content analysis also considers scientific methodology to study text and its authenticity, and the meaning or worth of the social and philanthropic operations of a company.

The measurements of CSR within Indonesian companies were made based on the content analysis of the company's annual reports and the disclosures of social responsibility activities. To properly assess the indicators in measuring CSR, KLD Research & Analytics, an independent investment research firm which provides sustainability research and indexes, used 'environmental', 'social' and governance rating' criteria. The total amount of indicators that were fulfilled by the companies would be used as the assessment for their CSR activities. Additional indicators were also included to fit the context of Indonesian companies, such as support for health, contribution to infrastructure and public services, and disaster-relief efforts.

There are many non-economic factors affecting CSR in the banking industry such as government regulation, standard implementation, interest group pressure, and company awareness. These factors are hard to measure and, hence, complicate the investigation of their relationships with CSR. The author therefore will utilize economic factors such as macroeconomics and financial indicators to determine their effect on CSR. These determinants are interest rate, exchange rate, profit growth, and Return on Assets (ROA).

The global economic crisis resulted in turmoil in foreign exchange markets and the skyrocketing of product prices making companies insolvent and unable to help their overseas offices and this led to cost-cutting steps. The negative macroeconomic atmosphere caused the hesitance of many companies in pursuing their corporate social responsibilities (De Bonis, 1999).

The stakeholder theory states that financial performance of one company influences their managerial decisions on disclosure of corporate social responsibility. When the company's financial performance is inadequate, demand for revenue should come first, rather than expense for corporate social responsibility (Roberts, 1992). In addition, in times of difficulties, a company will not disclose any CSR information but prioritizes to satisfy the needs of stakeholders (Meek et al, 1995).

Though stakeholder theory prefers positive correlation of financial performance with their level of corporate social responsibility disclosure, not all of the previous literature found results consistent with such a theory. Brandgon & Martin (1972) and Roberts (1992) showed that there were positive associations between financial performance and the quantity of CSR disclosure.

The term 'interest rate' is commonly used by consumers such as individuals and businesses to refer to the current rate of interest given on savings, mortgages, or loan refinancing. There are a few types of interest rates and they are applied to certificates of deposit, credit cards, and other loans such as for automobiles or real estate. These rates are tightly related to the consumer's financial borrowing. A change in the level of the interest rate by the central bank will affect all customers at large.

However, with the changes in bank financial structure and with less dependency on the bank for financing customer's credit, the control on the interest rate has much less impact

on the consumer's rate of interest (O'Sullivan and Sheffrin 2003). The business cycle has always interfered with the interest rate changes. De Bontis (1999), stated that the global economic crisis caused economic chaos and was responsible for the high costs for financing. During the crisis, many banks lacked corporate customers that were ready to borrow funds which further prevented other businesses from running their daily activities in a cost-effective manner.

In the field of finance, the exchange rates between two currencies determine how much one currency is worth in terms of another. This is the value of the foreign currency in the currency's country of origin (O'Sullivan and Sheffrin, 2003). A change in exchange rate means a depreciation and appreciation of one currency over another one. Depreciation is the term referring to a reduction in the value of money; whereas, in contrast, appreciation is the increase in value of money during a specific period of time for one reason or another. (Kenton, 2000)

The nominal exchange rate is the price in foreign currency of one unit of a domestic currency. The real exchange rate (*RER*) is defined as:

$$RER = e (P/P^f)$$

Where,  $e$  is the nominal exchange rate,  $P^f$  is the foreign price level and  $P$  the domestic price level.  $P$  and  $P^f$  must have had the same arbitrary value in some chosen base year.

Companies with a role in global development are actively involved not only through capital investment, but more importantly, by investing in human capital and providing local people with the tools to drive their own economic development. De Bonis in Njorage, (2009) shows that a negative macroeconomic atmosphere caused many companies to be unable to pursue their corporate social responsibilities.

The notion of profit according to Indonesian Institute of Accountants in Chariri and Ghozali (2003) is an increase in economic benefits, for one accounting period in the form of income or assets increase or decrease in liabilities resulting in an increase in equity, that are not derived from their capital contributions. According to Harahap (2005) profit is an important figure in financial statements for various reasons, among others: income tax is the basis of calculation and the guideline in determining policy and investment decision.

Proper comparison of revenues and presentation of earnings are an important focus of corporate performance. Profit growth is one of the parameters of the company's performance appraisal and is calculated by subtracting the current period earnings with profit of the previous period divided by the earnings in prior periods (Warsidi and Scout, 2000).

$$PG = (\text{Prof}_{t1} - \text{Prof}_{t-1})/\text{Prof}_{t-1}$$

Where,

PG : Profit growth

Prof : profit

t : time period

Several researches have investigated the relationship between the level of CSR disclosure and profit growth. Hackston and Milne (1996) found that profit growth was not correlated

to level of CSR disclosure. While, in contrast, Purushothajnan et al (2000), concluded that profit growth was significantly correlated to quantity of CSR disclosure.

Return on Assets (ROA) is an indicator of how profitable a company is before leverage, compared with similar companies in the industry. Because the figure for total assets of the company depends on the carrying value of assets, caution is required for some companies in that the carrying value may not match the actual market value. ROA is generally used to compare the performance of financial institutions such as banks, because most of their assets will have a carrying value that is close to their actual market value. Results assets may not be useful for comparisons between industries because of differences in the scale and capital requirements.

$$\text{ROA} = (\text{Net Income} + \text{Interest Expense} - \text{Interest Tax Savings}) / \text{Average Total Assets}$$

ROA depicts how much earnings a company could derive from each dollar of assets (Cram, 2008). Patten (1991) shows there was a negative correlation of financial performance with quantity of corporate social responsibility disclosure, with financial performance being represented by Return on Assets.

To analyze the effect of profit growth, ROA, interest rate, and exchange rate on CSR disclosure in the Indonesian banking industry before and the global economic crisis (2007-2008), the author uses the following models:

**Before crisis:**

$$\text{CSR}_b = \beta_0 + \beta_1 \text{PG}_b + \beta_2 \text{ROA}_b + \beta_3 \text{INTR}_b + \beta_4 \text{EXCH}_b + \varepsilon$$

$\text{CSR}_b$  = Corporate Social Responsibility score (based on KLD indicator) before the crisis

Where,

$\text{PG}_b$  = Profit growth before the crisis

$\text{ROA}_b$  = ROA before the crisis

$\text{INTR}_b$  = Interest rate before the crisis

$\text{EXCH}_b$  = Exchange rate before the crisis

$\varepsilon$  = Error term

**After crisis:**

$$\text{CSR}_a = \beta_0 + \beta_1 \text{PG}_a + \beta_2 \text{ROA}_a + \beta_3 \text{INTR}_a + \beta_4 \text{EXCH}_a + \varepsilon$$

$\text{CSR}_a$  = Corporate Social Responsibility score (based on KLD indicator) after the crisis

Where,

$\text{PG}_a$  = Profit growth after the crisis

$\text{ROA}_a$  = ROA after the crisis

$\text{INTR}_a$  = Interest rate after the crisis

$\text{EXCH}_a$  = Exchange rate after the crisis

$\varepsilon$  = Error term

## 4. FINDINGS AND DISCUSSION

The hypotheses state that there is a positive effect of profit growth, ROA, interest rate and

exchange rate on CSR in Indonesian banking industry before the crisis (2007).

Table 1 - ANOVA Test before the Crisis <sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.031	4	6.508	5.579	.003 <sup>a</sup>
	Residual	23.329	20	1.166		
	Total	49.360	24			

a. Predictors: (Constant), Exchange Rate, Interest Rate, Profit Growth, ROA

b. Dependent Variable: CSR

Table 1 depicts an F value of 5.579 with a significance level of 0.003 which describes that profit growth, ROA, interest rate and exchange rate affect CSR in the Indonesian banking industry before the crisis (2007). That could mean that without any outside financial and/or economic disturbances, all of these variables might contribute to CSR performance.

Table 2 - Correlation before Crisis

		CSR	Profit Growth	ROA	Interest Rate	Exchange Rate
Pearson Correlation	CSR	1.000	.696	-.174	.000	-.045
	Profit Growth	.696	1.000	.020	.030	.091
	ROA	-.174	.020	1.000	.059	.114
	Interest Rate	.000	.030	.059	1.000	-.040
	Exchange Rate	-.045	.091	.114	-.040	1.000
Sig. (1-tailed)	CSR	.	.000	.202	.499	.416
	Profit Growth	.000	.	.463	.443	.332
	ROA	.202	.463	.	.389	.293
	Interest Rate	.499	.443	.389	.	.425
	Exchange Rate	.416	.332	.293	.425	.
N	CSR	25	25	25	25	25
	Profit Growth	25	25	25	25	25
	ROA	25	25	25	25	25
	Interest Rate	25	25	25	25	25
	Exchange Rate	25	25	25	25	25

In Table 2, the correlation of profit growth with CSR of 0.696 may mean that the correlation of both variables is strong. The positive value indicates a positive relationship, where an increase of profit growth will result in increase of corporate social responsibility performance. The correlation value of -0.174 between ROA and CSR might mean that the correlation between both variables is weak. A negative value indicates a relationship between ROA and CSR in that an increase of ROA will result in a decrease of CSR performance.

There is no correlation between the interest rate variable and CSR before the crisis. The change in interest rates does not affect corporate social responsibility. The correlation between exchange rate and CSR is -0.045. That indicates a weak relationship between the two variables. The negative value shows opposite effect, where an increase of exchange rate will be accompanied with a decrease in CSR performance. Among the four independent variables, only profit growth is positively and significantly correlated with CSR.

Table 3 – Model Summary before Crisis<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.726 <sup>a</sup>	.527	.433	1.080	1.843

a. Predictors: (Constant), Exchange Rate, Interest Rate, Profit Growth, ROA

b. Dependent Variable: CSR

Table 3 shows an adjusted R-square of 0.527, which describes that 43.3% of CSR change is attributed to Profit Growth, ROA, Interest Rate and Exchange Rate.

Table 4- Coefficients before the Crisis<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5586.920	9617.549		.581	.568
	Profit Growth	1.004	.219	.708	4.583	.000
	ROA	-.227	.199	-.177	-1.142	.267
	Interest Rate	-8.325	92.067	-.014	-.090	.929
	Exchange Rate	-602.419	1044.723	-.090	-.577	.571

a. Dependent Variable: CSR

### Discussion of Results for before crisis model

Table 4 demonstrates the results from the regression model before the crisis. The profit growth shows a significant impact on the corporate social responsibility (CSR) performed by the banking industry. The relationship between profit growth and CSR could be explained by how healthy the business is in the banking industry. It could be then inferred that the higher the profit growth the more significant will be its impact on CSR activities.

In addition to the analysis on the independent variables, it can be shown from the regression results that the ROA, interest rate and exchange rate were unable to show any significant impact on CSR disclosure. It could mean that in times of prosperity, only profit growth matters to decide on the relevance of other activities. The hypotheses state that there is a positive effect of profit growth, ROA, interest rate and exchange rate toward CSR in the Indonesian banking industry after the crisis in 2008.

Table 5 illustrates an f value of 4.190 with a significance of 0.013 which means that profit growth, ROA, interest rate and exchange rate positively affect CSR in the Indonesian banking industry after the crisis (2008).

Table 6 - Correlation after the Crisis

		CSR	Profit Growth	ROA	Interest Rate	Exchange Rate
Pearson Correlation	CSR	1.00	.28	-.249	.43	.49
	Profit Growth	.28	1.00	.38	.23	.08
	ROA	-.249	.38	1.00	.06	-.361
	Interest Rate	.43	.23	.06	1.00	.14
	Exchange Rate	.49	.08	-.361	.14	1.00
Sig. (1-tailed)	CSR	.	.08	.11	.01	.00
	Profit Growth	.08	.	.02	.12	.33
	ROA	.11	.02	.	.38	.03
	Interest Rate	.01	.12	.38	.	.25
	Exchange Rate	.00	.33	.03	.25	.
N	CSR	2	2	2	2	2
	Profit Growth	2	2	2	2	2
	ROA	2	2	2	2	2
	Interest Rate	2	2	2	2	2
	Exchange Rate	2	2	2	2	2

From Table 6, the correlation of -0.249 between ROA and CSR could mean that there is a weak relationship between them. The negative value indicates that when ROA increases, CSR performance will decrease. The interest rate and CSR correlation value of 0.431 means that the relationship between the two variables is weak. The positive value means an increase in interest rate will result in an increase in CSR performance. The correlation of exchange rate with CSR of 0.499 describes a weak relationship between the two variables. The positive value shows that an increase in the exchange rate will lead to an increase in CSR disclosure. From the results, the author concludes that the exchange rate has the strongest correlation with CSR

Table 7 - Model Summary after Crisis<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.675 <sup>a</sup>	.456	.347	1.433	2.237

a. Predictors: (Constant), Exchange Rate, Profit Growth, Interest Rate, ROA

b. Dependent Variable: CSR

Table 7 demonstrates that 45.6% of CSR result can be explained using profit growth, ROA, interest rate and exchange rate. The Adjusted R Square is 0.347 or 34.7%. Even though it is not as high as preferred, it is still above the acceptable amount of 20%. Therefore, the model is fit enough to be valid.

Table 8 - Coefficients<sup>a</sup> after Crisis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-32640.9	16467.522		-1.982	.061
	Profit Growth	.186	.126	.279	1.475	.156
	ROA	-.206	.159	-.257	-1.297	.209
	Interest Rate	305.346	155.697	.335	1.961	.064
	Exchange Rate	3102.344	1712.666	.335	1.811	.085

a. Dependent Variable: CSR

### Discussion of Results for after crisis model

After the crisis, the independent variables of interest rate and exchange rate show a significant impact on the CSR performed by the banking industry. Both variables display

a positive relationship with CSR. There are possible explanations related to the relationship between interest rates and exchange rate with the CSR.

If the interest rate is high, companies will choose not to expand their business by investing, but rather to just deposit their money in the banks. Banks will find it very challenging to lend money since the economy is not favorable. Banks may then choose to focus on their social duties by performing more CSR which might improve their business in the future.

However, after the crisis, the economy starts to pick up and most businesses will try to increase their investment by borrowing money. The interest rate will start to decrease in order to stimulate growth of the economy. During that period onward, banks will perform better by lending more and therefore will have the opportunity to carry on more CSR activities.

In the early stages of an economic recovery, the country's weak exchange rate will allow foreign countries to buy more of the local goods. Banks will enjoy an inflow of foreign currency which entitles them to fees and improves their financial performance, thus allowing them to execute more CSR implementation. When the exchange rate is high, it implies that local currency is appreciating against foreign currency. That situation is advantageous for certain businesses such as importers and companies that buy raw materials overseas as they will be paying less than usual.

While it is true that profit growth and return on assets might have a positive relationship with CSR, in this study, both variables failed to show significant impact on the CSR after the crisis. The author assumes that during economic expansion, the business cycle will be more decisive on how banks allocate their financial resources.

## 5. CONCLUSION

After conducting the research, several conclusions can be made from the results. From the first hypothesis, before the crisis only profit growth had an impact on banks' CSR disclosure. When the world economy started to show some signs of distress in 2007, only profit growth is the most important factor to remain competitive and absorb any possible economic shock. The other variables demonstrated a positive relationship but they were unable to show any significant contribution to CSR disclosure.

After the crisis in 2008, the economy started to grow, and all businesses took the opportunity to increase their investment for expansion. Both exchange rate and interest rate dictated the business future. When those rates were supporting the growth momentum banks enjoyed a better financial performance which enabled them to conduct more CSR.

Based on these findings, it could be recommended for banks to understand the factors affecting their CSR before or after economic crises so they could formulate strategic efforts to increase their CSR and, if necessary, carry out preventive actions to protect their CSR.

### **Limitations**

In the process of making the thesis and conduct of research, the author has encountered



several limitations which included:

1. The assessment of CSR was based on the positive measurement and did not account for the negative impacts because of the limited information available.
2. The content analyses were based solely on the annual reports from the companies, not from other materials such as the number of CSR activities performed.

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## **Appendices**

### **A. Template of CSR Scoring (based on KLD Ratings Criteria)**



# A Dynamic Program for Valuing Corporate Debt Portfolios

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## Abstract

We design and implement a dynamic program for valuing corporate debt portfolios, seen as derivatives on a firm's assets, and computing its term structure of yield spreads and of default probabilities. Our setting accommodates arbitrary corporate debts, multiple seniority classes, sinking funds, American-style embedded options, dividends, tax benefits, bankruptcy costs, alternative reorganization processes, and various Markov dynamics for the state process. This flexibility comes at the expense of a minor loss of efficiency; the analytical approach proposed in the literature is exchanged here for a numerical approach based on dynamic programming coupled with finite elements. We provide several theoretical properties of the debt- and equity-value functions. Finally, to assess our construction, we carry out a numerical investigation along with a sensitivity analysis.

Key words: Option theory, No-arbitrage pricing, Structural models, Corporate-bond portfolios, Corporate bankruptcy prediction, Dynamic programming, Finite elements, Numerical integration

# 1 Introduction

The aim of this paper is to design and implement a dynamic programming framework for valuing arbitrary corporate bond portfolios, and computing the term structure of yield spreads and of default probabilities. This program, based on the structural model, is flexible and efficient. Beyond an academic exercise, we hopefully offer a *realistic* setting for analyzing corporate credit risk. A corporate bankruptcy generates a loss of value for the firm's claimholders and a loss of positions for the firm's workers. Corporate credit-risk models are thus useful for market participants in that they help to preclude financial distress and its adverse events.

The option-based approach for pricing corporate bonds goes back to Merton (1974). He considers a model for a firm with a simple capital structure with a pure bond and a common stock (equity). Then, the author interprets the stock as a European call option on the firm's assets, whose value follows a geometric Brownian motion (GBM), as set by Black and Scholes (1973). The option's expiry date and strike price are the bond's maturity date and principal amount, respectively. As well, holding the pure bond is equivalent to holding the entire firm and selling a European call option to equityholders, to buy the firm at the bond's maturity for its principal amount.

This pioneering paper has given rise to an extensive literature, known as the *structural model*, where the values of a firm's debt and equity are expressed as functions of time and of the value of the firm's assets (the state variable). As well, the default event at a given payment date occurs when the state variable falls under a certain *default barrier*. The key attractive point of the structural model is that the (unobserved) asset value is inferred from the (observed) equity value and the nominal debt structure.

The extensions to Merton's paper in the literature are twofold. The first family solves the model in closed form. It refers either to the known distribution of the first passage time of a GBM to a *fixed barrier* or to the known analytical values of certain barrier and compound options. Exogenous barriers (Black and Cox 1976, Longstaff and Schwartz 1995, François and Morellec 2004, Hsu, Saà-Requejo, and Santa-Clara 2010) as well as constant endogenous barriers (Leland 1994, Leland and Toft 1996, Ericsson and Reneby 1998, Collin-Dufresne and Goldstein 2001, Nivorozhkin 2005a and 2005b, and Chen and Kou 2009) are considered. The second family refers to numerical methods. Finite differences (Brennan and Schwartz 1978), binomial trees (Anderson and Sundaresan 1996 and Broadie, Chernov, and Sundaresan 2007),

and Monte Carlo simulation (Zhou 2001 and Galai, Raviv, and Wiener 2007) are used. Closed-form solutions, where available, are obviously preferred to approximations. They are extremely efficient: they assure the highest accuracy at a very low computing time. Closed-form solutions explicitly link the unknown parameters to their input parameters and, thus, allow for a direct sensitivity analysis. However, they rely on very simplified assumptions. None of the models solved in closed form can handle arbitrary corporate debt portfolios, nor their embedded American-style options. Likewise, none of them can handle alternative dynamics for the state process (Zhou 2001), nor realistic reorganization procedures for the firm (Galai, Raviv, and Wiener 2007 and Broadie, Chernov, and Sundaresan 2007). Numerical methods can, but they are time consuming. Our construction is an acceptable compromise in terms of flexibility and efficiency.

Among other objectives, the structural model attempts to explain the observed yield spreads and default frequencies. Despite its parsimony, the simplest structural model (Merton 1974) compares extremely well to the classic statistical approach for bankruptcy prediction (Hillegeist et al. 2004), and to a lesser extent to the neural-network approach (Aziz and Dar 2006). A hybrid approach can be developed, where some of the statistical risk factors are inferred from the structural model, e.g. the distance to default (Benos and Papanastasopoulos 2007). More complex structural models have further explained the observed yield spreads and default frequencies (Delianedis and Geske 2001 and 2003, Leland 2004, Huang and Huang 2003, and Suo and Huang 2006). According to Delianedis and Geske (2001), the most important components of credit risk are default, recovery, tax benefits, jumps, liquidity, and market factors.

Black and Cox (1976) extend Merton's model to a corporate bond portfolio made up of a pure senior bond and a pure junior bond. Nivorozhkin (2005a and 2005b) incorporates bankruptcy costs into Merton's model. Geske (1977) uses the theory of compound options, and further extends Merton's model to arbitrary corporate bond portfolios. However, his analytical approach remains questionable when the number of coupon dates is high. Leland (1994) and Leland and Toft (1996) consider particular bond portfolios consistent with a constant default threshold. Then, by maximizing the present value of equity, they solve for the so-called *endogenous default barrier*. They consider tax benefits under the survival event and bankruptcy costs under the default event. These frictions allow the authors to discuss the notions of maximum debt capacity and optimal capital structure. The latter is a break-down of

the Modigliani-Miller conjecture stating that, in pure and perfect capital markets, the value of a firm's assets is independent of its capital structure.

We propose a dynamic-programming framework for valuing corporate debts, seen as derivatives on a firm's assets, and computing its term structure of yield spreads and of default probabilities. Our setting extends the models of Black and Cox (1976), Geske (1977), Leland (1994), Leland and Toft (1996), and Nivorozhkin (2005a and 2005b) for it accommodates 1- arbitrary corporate-bond portfolios, 2- multiple bond seniority classes, 3- sinking funds, 4- American-style embedded options, 5- dividends, 6- tax benefits, 7- bankruptcy costs, 8- alternative reorganization processes, and 9- various Markov dynamics for the state process. The default and reorganization barriers inferred at payment dates are completely endogenous, and follow from an optimal decision process. These extensions come at the expense of a minor loss of efficiency. The analytical approach of these authors is exchanged here for a numerical approach based on dynamic programming coupled with finite elements.

This paper is organized as follows. Section 2 presents the model based on dynamic programming, and provides several theoretical properties of the debt- and equity-value functions. Section 3 solves the dynamic program, and Section 4 discusses alternative reorganization processes. Section 5 is the model-estimation step. While Section 6 is a numerical investigation that replicates reported results from the literature and carries out a complete sensitivity analysis, Section 7 is a case study that analyses the recent default of KODAK. Section 8 concludes.

## 2 Model and notation

Consider a public company with the following capital structure: a common stock (equity) and a portfolio of senior and junior bonds. Let  $\mathcal{P} = \{t_1, \dots, t_n, \dots, t_N = T\}$  be a set of on-going payment dates,  $t_0^*$  the last payment date,  $t_1$  the next payment date, and  $t_0 = 0 \in (t_0^*, t_1)$  the origin. At time  $t_n \in \mathcal{P}$ , the firm is committed to paying  $d_n^s + d_n^j = d_n > 0$  to its bondholders, where  $d_n^s$  and  $d_n^j$  are the outflows generated at  $t_n$  by the senior and junior bonds, respectively. The total outflow  $d_n$  includes interest payments as well as principal payments. The interest payments are indicated by  $d_n^{\text{int}}$ . The amounts  $d_n^s$ ,  $d_n^j$ , and  $d_n^{\text{int}}$ , for  $n = 1, \dots, N$ , are known to all investors from the very beginning. We follow Black and Cox (1976) who assume that debt

is financed by issuing new shares of stock. The last payment dates of the senior and junior debts, both in  $\mathcal{P}$ , are indicated by  $T^s$  and  $T^j$ , respectively. Several authors consider a coupon senior bond and a coupon junior bond with a longer maturity, that is,  $0 \leq T^s < T^j = T$ . Senior bondholders are therefore assured to be paid before junior bondholders. This realistic case is embedded in our setting.

For  $t \in [0, T]$ , the (present) value of the 1- firm's assets, 2- dividends, 3- tax benefits, 4- bankruptcy costs, 5- senior bonds, 6- junior bonds, and 7- equity are indicated by  $A_t = a$ ,  $\text{DIV}_t(a)$ ,  $\text{TB}_t(a)$ ,  $\text{BC}_t(a)$ ,  $D_t^s(a)$ ,  $D_t^j(a)$ , and  $S_t(a)$ , respectively. The total debt value is indicated by  $D_t(a) = D_t^s(a) + D_t^j(a)$ . These quantities are interpreted herein as financial derivatives on the firm's assets. Dividends and tax benefits, as claims, are characterized by cash-flow streams of  $\text{div}_n$  and  $\text{tb}_n = r_n^c d_n^{\text{int}}$ , under survival at  $t_n$ , for  $n = 1, \dots, N$ . The dividend amount  $\text{div}_n$  can be made as a function of the firm's value at  $t_n$ , but, for simplicity, it is assumed to be a known constant. The rate  $r_n^c$  is the effective corporate tax rate that would apply at time  $t_n$ , which is a known constant. Bankruptcy cost, as a claim, is characterized by a unique cash flow under default of  $wA_\tau \mathbf{I}(\tau \leq T)$ , where  $\tau$  is the stopping time at which the firm defaults,  $w \in [0, 1]$  a known proportion, and  $\mathbf{I}(\cdot)$  the indicator function. The proportion  $w$  can be interpreted as a *write-down* or a *loss severity ratio* and  $1 - w$  as a *recovery rate*.

The *state process*  $\{A\}$  (the asset value of the firm) is an exogenous, strictly positive, and Markov process, for which the following transition parameters are supposed to be known in closed form:

$$\begin{aligned} T_{abcd}^0 &= E^* [\mathbf{I}(b \leq A_v \leq c) \mid A_u = a] \\ &= P^* (A_v \in [b, c] \mid A_u = a), \end{aligned} \quad (1)$$

and

$$T_{abcd}^1 = E^* [A_v \mathbf{I}(b \leq A_v \leq c) \mid A_u = a], \quad (2)$$

where  $0 \leq u \leq v \leq T$ ,  $\delta = v - u$ , and  $a, b$ , and  $c \in \mathbb{R}_+$ . Here,  $E^*[\cdot \mid A_u = a]$  represents the conditional expectation symbol under the risk-neutral probability measure  $P^*(\cdot)$ , and  $\mathbf{I}(\cdot)$  the indicator function. These truncated moments can be seen as the minimum information required for the Markov process  $\{A\}$  to play the role of a *state process*.

The conditions (1)–(2) accommodate a large family of pure-diffusion, jump-diffusion, and more general Markov processes. The GBM, the GBM coupled with Poisson jumps, and the GARCH process are examples, among



others. See (Ben-Ameur, Breton, and L'Écuyer 2002) and (Ben-Ameur, Breton, and François 2004) for pricing Asian and installment options under the GBM assumption, respectively. Other Markov processes can be used along the same lines with some modifications; see (Ben-Ameur, Chérif, and Remillard 2012) for pricing options under a jump-diffusion process, and Ben-Ameur, Breton, and Martinez (2009) under the family of Gaussian GARCH processes. For simplicity, we focus herein on the GBM assumption.

The model is based on the assumption that the present value of dividends, tax benefits, and bankruptcy costs impact the left-hand side of the (economic) balance-sheet equality at payment dates as follows: for  $t \in [0, T]$ , one has

$$a - \text{DIV}_t(a) + \text{TB}_t(a) - \text{BC}_t(a) = D_t(a) + S_t(a), \quad (3)$$

where  $a = A_t$ . The quantity at the left-hand side of the balance-sheet equality is known as the *total value of the firm*. Brennan and Schwartz (1978) consider a balance-sheet equality where the present values  $\text{DIV}_t(\cdot)$ ,  $\text{TB}_t(\cdot)$ , and  $\text{BC}_t(\cdot)$  are exchanged for their associated current payoffs at payment dates, that is,  $\text{div}_n$  and  $\text{tb}_n$  under survival, and  $wA_{t_n}$  under default, for  $n = 1, \dots, N$ , respectively. They solve the model numerically for a coupon bond and an exogenous default barrier. Leland (1994) and Leland and Toft (1996) interpret tax benefits and bankruptcy costs as derivatives on the firm's assets, and assume that they impact the left-hand side of the balance-sheet equality at the origin (only) through their present values. Our dynamic setting accounts for these frictions at each decision date. From an empirical point of view, though, the question of how much an increase in the total value of the firm impacts equity and debt remains arguable (Miller 1977). Another divergence with respect to Leland (1994) and Leland and Toft (1996) comes from their assumption that  $A_{t_n} = b^*$  under default at  $t_n$ , where  $b^*$  is their (constant) default barrier, while, more in line with the literature, we assume that  $A_{t_n} \leq b_n^*$  under default at  $t_n$ . The last definition better accommodates a jump-diffusion hypothesis for the state-process dynamics. Nivorozhkin (2005a and 2005b) considers bankruptcy costs, both proportional and fixed, in a one-period model à la Merton (1974). His model is nested in our construction.

For simplicity, we herein enforce the *strict priority rule* under default, although other sharing rules between claimholders can be easily introduced.

**Proposition 1** *All value functions and decisions at time  $t \in [0, T]$  depend on  $(t, a)$ , where  $a = A_t$ , and verify the balance-sheet equality (equation 3).*

The default event at time  $t_n \in \mathcal{P}$  is in the form  $\{a \leq b_n^*\}$ , where  $a = A_{t_n}$ . The default barriers  $b_n^*$ , for  $n = 1, \dots, N$ , are inferred from an optimal decision process, and maximize the equity value. They are rightly named the endogenous default barriers.

**Proof.** We propose a proof by induction. First, we show that the property holds at  $t_N$ . Then, we assume that the same property holds at a certain future date  $t_{n+1}$ , and show that it holds at  $t \in (t_n, t_{n+1})$ , then at  $t_n$ .

Consider the following cases at  $t_N$ .

**Case 1:** The firm survives at time  $t_N = T$ , that is,

$$a - \text{div}_N + \text{tb}_N > d_N,$$

where  $a = A_{t_N}$ , or, equivalently,

$$a > \text{div}_N - \text{tb}_N + d_N. \quad (4)$$

One has

$$\begin{aligned} \text{DIV}_{t_N}(a) &= \text{div}_N \\ \text{TB}_{t_N}(a) &= \text{tb}_N \\ \text{BC}_{t_N}(a) &= 0 \\ D_{t_N}^s(a) &= d_N^s \\ D_{t_N}^j(a) &= d_N^j \\ S_{t_N}(a) &= a - \text{div}_N + \text{tb}_N - D_{t_N}(a) \\ &= a - (\text{div}_N - \text{tb}_N + d_N) > 0. \end{aligned}$$

Senior and junior bondholders are fully paid; whatever remains belongs to equityholders.

**Case 2:** The firm defaults at time  $t_N = T$ , that is,

$$a \leq \text{div}_N - \text{tb}_N + d_N, \quad (5)$$

where  $a = A_{t_N}$ .

One has

$$\begin{aligned} \text{DIV}_{t_N}(a) &= 0 \\ \text{TB}_{t_N}(a) &= 0 \\ \text{BC}_{t_N}(a) &= wa \\ D_{t_N}^s(a) &= \min((1-w)a, d_N^s) \\ D_{t_N}^j(a) &= \max(0, (1-w)a - D_{t_N}^s(a)) \\ S_{t_N}(a) &= 0. \end{aligned}$$

Senior bondholders are partially paid and junior bondholders are not when  $D_{t_N}^s(a) = (1-w)a$ , that is,  $a < d_N^s/(1-w)$ . The former are fully paid and the latter are partially paid when  $D_{t_N}^s(a) = d_N^s$ , that is,  $a \geq d_N^s/(1-w)$ . Clearly, all value functions at maturity are functions of  $A_{t_N} = a$ , and the balance-sheet equality holds in all cases. We can do more, and explicit them as functions of  $a = A_{t_N}$ , e.g.,  $S_{t_N}(a) = \max(0, a - (\text{div}_n - \text{tb}_N + d_N))$ , for all  $a > 0$ . Thus, the stock can be seen as a call option (Merton 1974) from the perspective of an investor at time  $t \in (t_{N-1}, t_N)$ . This is not really helpful here; our approach is designed to accommodate any derivative whose value at time  $t \in [0, T]$  is in the form  $\kappa(t, a)$ , where  $a = A_t$ .

Suppose now that  $D_{t_{n+1}}^s(\cdot)$ ,  $D_{t_{n+1}}^j(\cdot)$ , and  $S_{t_{n+1}}(\cdot)$  are functions of  $a = A_{t_{n+1}}$  at a certain future date  $t_{n+1}$ , and that the balance-sheet equality holds. For  $t \in (t_n, t_{n+1})$ , and, consequently, just after the payment date  $t_n$ , no-arbitrage pricing gives

$$\begin{aligned}
\text{DIV}_{t_n^+}(a) &= E^* [\rho \text{DIV}_{t_{n+1}}(A_{t_{n+1}}) | A_{t_n^+} = a] \\
\text{TB}_{t_n^+}(a) &= E^* [\rho \text{TB}_{t_{n+1}}(A_{t_{n+1}}) | A_{t_n^+} = a] \\
\text{BC}_{t_n^+}(a) &= E^* [\rho \text{BC}_{t_{n+1}}(A_{t_{n+1}}) | A_{t_n^+} = a] \\
D_{t_n^+}^s(a) &= E^* [\rho D_{t_{n+1}}^s(A_{t_{n+1}}) | A_{t_n^+} = a] \\
D_{t_n^+}^j(a) &= E^* [\rho D_{t_{n+1}}^j(A_{t_{n+1}}) | A_{t_n^+} = a] \\
S_{t_n^+}(a) &= E^* [\rho S_{t_{n+1}}(A_{t_{n+1}}) | A_{t_n^+} = a],
\end{aligned} \tag{6}$$

where  $r^f$  is the risk-free rate,  $\rho = e^{-r^f(t_{n+1}-t_n)}$  the discount factor over  $(t_n, t_{n+1})$ , and  $A_{t_n^+} = a = A_{t_n}$ . As stated by Black and Cox (1976) in a context without frictions, debt cannot be financed by selling part of the firm's assets; rather, it is financed by issuing new shares of stock. This covenant applies here. Equations (6) implicitly assume that the firm survives for all  $t \in (t_n, t_{n+1})$  and  $a = A_t > 0$ , which is obviously true since

$$P^*(S_{t_{n+1}}(A_{t_{n+1}}) > 0 | A_t = a) > 0.$$

Technically, Black and Cox's assumption results in a discontinuity at  $t_n \in \mathcal{P}$  of the debt- and equity-value functions,  $D_t(a)$  and  $S_t(a)$ , seen as functions of  $t$ . Clearly, all value functions at  $t_n^+$  depend on  $a = A_{t_n^+} = A_{t_n}$ . Now, the martingale property of the state process  $\{A\}$ , discounted at the risk-free rate, reduces to the balance-sheet equality at time  $t \in (t_n, t_{n+1})$ , and consequently

## Information Asymmetry and Accounting Conservatism under IFRS Adoption

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### ABSTRACT

LaFond and Watts (2008) provide evidence that information asymmetry might be a determinant of accounting conservatism. One implication of their paper is that regulators trying to reduce information asymmetry by lowering the level of accounting conservatism might be wrong. However, there is a trend in moving away from conservative accounting. The typical example is IFRS adoption. Therefore, this paper studies information asymmetry and accounting conservatism under IFRS adoption. The results show that the level of accounting conservatism decreases after mandatory IFRS adoption, but the adoption of IFRS is likely to weaken the relationship between information asymmetry and accounting conservatism. Moreover, this paper investigates how the change of accounting conservatism under IFRS is related to the change in information environment. The finding shows that accounting conservatism increases information environment, supporting the idea that, by providing comparatively credible information, conservative accounting is beneficial to the information environment.

Keywords: information asymmetry; accounting conservatism; IFRS.

### 1. INTRODUCTION

Conservatism is a traditional measure of the profits by recording the losses immediately and the gains after the realization. Basu (1997) interprets conservatism as accountants' tendency to require a higher degree of verification to recognize good news as gains than to recognize bad news as losses. The long term result of accounting conservatism is an understatement of net assets. LaFond and Watts (2008) have shown the relationship between information asymmetry and accounting conservatism. The primary research objective of this paper is to extend LaFond and Watts (2008) study by investigating the change in the level of conservatism after mandatory IFRS adoption, and the effect of IFRS on this relationship. There is also an argument mentioned by LaFond and Watts that conservative accounting is beneficial to the information environment. However, this was not been tested. Therefore, the second research objective of this paper is to examine the relationship between accounting conservatism and information environment.

Conservatism exists in financial reports (Dechow et al., 1999; Beaver and Ryan, 2000; Basu, 1997; Givoly and Hayn, 2000). Researchers have proposed four explanations for conservative accounting: contracting, litigation, regulation, and taxation (Watts and Zimmerman, 1986; Ball, 1989; Basu, 1997; Watts, 2003). Recently, LaFond and Watts (2008) investigate the relationship between information asymmetry and conservatism. Their study sheds lights on the view that information asymmetry might be another important determinant of conservatism. They also provide evidence that the effect of information asymmetry on conservatism exists after controlling for contracting and litigation effects. This implies that the effect of information asymmetry on conservatism cannot be attributed to other potential sources of conservatism. If there are no correlated

omitted variables in their tests, one crucial implication of their paper is that the aim of accounting standard setters trying to reduce information asymmetry by lowering the level of accounting conservatism in financial statements might not be achieved. However, there is a trend in financial reporting standards which is moving away from conservative accounting to fair value accounting. The most typical example is the wide adoption of IFRS around the world. According to the IFRS website, there are approximately 120 nations and reporting jurisdictions which permit or require IFRS for domestic listed companies. In the literature, to date, most papers focused on documenting the change of economic consequences of IFRS adoption, such as cost of capital, comparability, and accounting relevance. However, few papers have investigated the level of information asymmetry after IFRS adoption and there is even fewer empirical evidences investigating the change in conservatism after IFRS adoption. Therefore, in order to fill up this gap in the literature, our paper investigates information asymmetry and accounting conservatism under IFRS adoption.

In LaFond and Watts (2008) paper, they also argue that conservative financial reports are likely to generate a more informed capital market than financial reports that include more unverifiable information. However, what constitutes an informed capital market has not been carefully defined and, also, this implication is not tested in their paper. Hu and Zhang (2011) extend LaFond and Watts (2008) by using Basu (1997) model to capture accounting conservatism and firm-specific return volatility to proxy for informed capital market. Their paper mainly focuses on informativeness of stock price. They calculate their measure of firm-specific return volatility using data based on an expanded market model given in Jin and Myers (2006). Finally, they document that information environment is positively associated with accounting conservatism in their international dataset. We define an informed capital market as an analyst information environment which is different from Hu and Zhang (2011). In the prior literature, numerous studies use the characteristics of analyst forecasts as a proxy for the information environment (Lang and Lundholm, 1996; Gebhardt et al., 2001; Lang et al., 2003). Consistent with them, we investigate the relationship between accounting conservatism and information environment. After mandatory IFRS adoption, which provides a good setting to examine this research issue, firms are more flexible in choosing accounting methods than before, because IFRS was supposed to reduce accounting discretion and improve uniformity. Related parties, such as debt-holders, shareholders, and analysts might change their attitudes towards accounting numbers presented in financial statements and, thus, alter the requirement for conservatism. For example, after IFRS adoption, if debt-holders anticipate that the accounting numbers become less credible, they will set up more stringent requirements in debt contracts, such as higher net asset, to compensate for the loss in accounting credibility. If this is the case, then, the capital market after mandatory IFRS adoption is actually less informed.

Different from mandatory IFRS adoption firms (on-time or late IFRS adopters) which are expected to be more conservative in accounting before, early IFRS adopters might not experience a significant change in the relationship between conservatism and information asymmetry. There are two reasons. First, even though these firms are standing outside of main stream in the economy before mandatory adoption, they are leaders in the industry after mandatory IFRS adoption with an established accounting record of IFRS numbers. Analysts can directly evaluate accounting numbers of these firms. However, mandatory adoption firms still need more time to fully understand IFRS and get used to reporting under IFRS. This might hinder analysts' evaluation referring to accounting numbers.

Second, early IFRS adopters have already fully taken the benefits and costs into consideration before voluntarily adopting IFRS, and, thus, the conservatism of early adoption firms might not change during the IFRS transition period. Consequently, even though the mandatory IFRS adoption might exert influence on conservatism, the level of accounting conservatism of early adoption firms is expected to be remained the same.

We focus on a sample of European countries which required mandatory adoption of IFRS after 2005. The goal of IFRS is to improve financial reporting internationally, increase the comparability, reducing information asymmetry and reduce cost of capital. To some level, the standard-setters are trying to reduce information asymmetry between firms and outside investors by incorporating more unverified value into financial reports. However, since conservatism is a simple response to the change of information asymmetry (LaFond and Watts, 2008), trying to reduce information asymmetry through lowering conservatism might not be effective. Nevertheless, there are papers indirectly documenting a lower level of information asymmetry after mandatory IFRS adoption (Ashbaugh and Pincus, 2001; Wang et al., 2007; Daske et al., 2008; Armstrong et al., 2010; Li, 2010). These studies do not violate the findings of LaFond and Watts (2008), because firms still can benefit from IFRS adoption from other sources, such as higher comparability which will lower information asymmetry. In our paper, in order to focus only on the role of conservatism, we investigate the effect of mandatory IFRS adoption on the relationship between information asymmetry and conservatism. In addition, we also expect European countries mandatorily adopting IFRS after 2005 to be a worthwhile setting to investigate, because this is a significant change in IFRS adoption history. Moreover, the extant empirical literature investigating the economic consequences after mandatory IFRS adoption is unclear. Further, the mandatory IFRS adoption setting provides an explicit cutoff date, using which we can separate the data and analyze the situation before and after IFRS adoption.

Following Basu (1997), we use the asymmetric timeliness of gain and loss recognition to measure accounting conservatism. Following Lang et al. (2003), we use the characteristics of analyst forecasts as a proxy for the information environment. Specifically, we consider how forecast accuracy and analyst following during the period around the mandatory adoption of IFRS in Europe. We assess the robustness of our results by using *C\_Score* (Khan and Watts, 2009). It is a measure of accounting conservatism at the firm-year level. Also, we provide evidence that this measure is valid in European countries setting, because it can effectively distinguish firms with different level of conservatism.

Our study contributes to the existing literature in several ways. First, despite the large literature on accounting conservatism, few studies have investigated the effect of IFRS on relationship between information asymmetry and conservatism. Using Basu coefficients, LaFond and Watts (2008) find that information asymmetry is positively associated with conservatism and, also, it is information asymmetry leads to conservatism. Piot et al. (2010) examine the change of conditional conservatism after IFRS adoption. They find that conditional conservatism, as measured by the asymmetric timeliness of bad vs. good news, has decreased under IFRS, notably among Big 4 audits. Unlike those studies, our paper concentrates on the effect of IFRS on the relationship between information asymmetry and conservatism. This means we provide a new view by taking information asymmetry, conservatism and IFRS into consideration simultaneously.

Second, this paper makes contribution to the literature on analyst's information environment after IFRS adoption. Horton and Serafeim (2010) examine the effect of mandatory IFRS on firms' information environment and find that the improvement is limited to non-financial firms that mandatorily adopt IFRS. Our paper further studies the impact of conservatism on analyst's information environment after IFRS adoption, expanding and shedding lights on literature by linking conservatism which is an important feature of accounting information to analyst's information environment.

Third, our paper also contributes to the literature on economic consequences of IFRS adoption. In prior literature, the effect of IFRS adoption is mixed. On one hand, researchers find that there is a decrease in information asymmetry and cost of capital after IFRS adoption. Daske et al. (2008) document a decrease in firms' cost of capital and an increase in equity valuation in countries with strong legal enforcement. Li (2010) finds a decrease in cost of capital in mandatory IFRS adoption case. However, on the other hand, Soderstrom and Sun (2007) argues that cross-country differences in accounting quality are likely to remain following IFRS adoption. Our paper investigates effect of IFRS on information asymmetry and conservatism, adding evidence on economic consequences of IFRS adoption.

Finally, this paper also has important regulatory implication to countries concerning mandatory IFRS adoption. LaFond and Watts (2008) argue that more conservative accounting is likely to generate more informed capital market. IFRS, which incorporates more fair value into financial statement, contradicts their argument. This paper examines the effect of conservatism on information environment after IFRS adoption, which has significant implication to standard-setters and countries considering IFRS adoption.

## 2. INSTITUTIONAL SETTING

International Financial Report Standards (IFRS) will likely eventually be adopted by countries all around the world. According to the IFRS website, approximately 120 nations and reporting jurisdictions permit or require IFRS for domestic listed companies. Although 90 countries have fully conformed to IFRS and include a statement acknowledging such conformity in audit reports, some other countries including Korea is expected to transition to IFRS by 2011; Mexico will require IFRS for all listed companies in 2012; Japan has been considering the adoption of IFRS.<sup>53</sup> United States is also considering a timeline of transition to IFRS for firms that want to start reporting under IFRS. In recent years, IASB has continued to take steps to extend the application of IFRS adoption.

The European Union required publicly listed companies to present consolidated financial statements consistent with IFRS for each financial year starting after 1 January 2005 (EC Regulation No. 1606/2002). While mandatory IFRS adoption is required after 2005, there are still exemptions. For example, Swiss firms that are not multinationals are exempt from IFRS reporting. These companies may continue to use Swiss GAAP, or they can choose between IFRS or US GAAP (Deloitte, 2008). These firms which are not reporting under IFRS are excluded in our study. Firms that are reporting under IFRS can be divided into two groups. Voluntary adopters include all firms that adopted IFRS before

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<sup>53</sup> IFRS FAQ. (n.d.) *How widespread is the adoption of IFRS around the world*. Retrieved December 16, 2010, from [http://www.ifrs.com/ifrs\\_faqs.html#q3](http://www.ifrs.com/ifrs_faqs.html#q3).

2005, while mandatory adopters include firms forced by EU to adopt IFRS.

The economic consequences after mandatory IFRS adoption are still unclear. Standard-setters claim that the adoption of IFRS has the ability to reduce the information asymmetry, increase comparability, and, thus, decrease cost of capital by providing comparatively more reliable estimation about future cash flows, making financial statement more useful to investors. Daske et al. (2008) report an increase in earnings quality for a sample of firms that voluntarily adopt IFRS. Li (2010) provides evidence that the significant drop in cost of capital still exists under mandatory IFRS adoption. Armstrong et al. (2010) document an incrementally positive reaction for firms with lower pre-adoption information and with higher pre-adoption information asymmetry. Ashbaugh and Pincus (2001) consider IFRS as a high quality set of standards providing valuable information to investors. Wang et al. (2007) examine the effect of mandatory IFRS adoption, and find that there is a significant decrease in earnings forecast errors. Another argument in favor of mandatory IFRS adoption is that the global movement towards IFRS creates a set of worldwide accounting standards, making it easier for foreign investors interpreting firms' financial statements and, thus, lowering related cost.

However, there are also plenty of criticisms towards the mandatory adoption of IFRS, which is considered as a set of fair-value oriented and comprehensive accounting standards than most local GAAP in Europe. Ries and Stocken (2007) as well as Dye and Sunder (2001) find that even though the informativeness of a report using fair value completely reveals a firm's inventory holdings, difficulties of implementing fair value measurements hamper this ability. Moreover, the financial crisis in 2008 sounded the alarm to standard setters and has led to a vigorous debate about the pros and cons of fair value accounting. Khan (2010) finds that fair value reporting is associated with an increase in systemic risk<sup>54</sup> in banking industry. In addition, LaFond and Watts (2008) argue for a causation relationship between information asymmetry and conservatism. They argue that standard-setters who are trying to reduce information asymmetry and increase transparency by incorporating more unverifiable values might not achieve their goal. Consequently, mandating the use of IFRS may not make financial reports more comparable or more informative, suggesting that the economic consequences of mandatory IFRS adoption can be small or negligible. As different views stated above, the capital market reaction towards mandatory IFRS adoption remains as an important empirical issue.

### **3. LITERATURE REVIEW**

Conservatism's influence on accounting practice has been long and significant (Watts, 2003). Although there is a trend in moving from conservative accounting to fair value accounting, conservatism still cannot be eliminated. The survival of conservatism suggests that it has its own benefits. If regulators and standard-setters ignore its benefits and try to eliminate conservatism without fully understanding these benefits, the resultant standards are likely to damage the role of accounting as an information source (Khan and Watts, 2009).

#### **2.1 Explanations for Conservatism**

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<sup>54</sup> Systemic risk is the risk or probability of breakdowns in an entire system, as opposed to breakdowns in individual parts or components (Kaufman and Scott, 2000).



In the literature, there are four traditional alternate explanations for conservatism: contracting, litigation, taxation, and accounting regulation. There are also several non-conservatism explanations for asymmetric timeliness or asymmetric earnings response coefficients, such as financial options (Dhaliwa et al., 1991; Fischer and Verrecchia, 1997; Core and Schrand, 1999; Plummer and Tse, 1999), adaptation option (Burgstahler and Dichev, 1997), real option (Christophe, 2002), earnings management (Hanna, 2002) and abandonment option (Hayn, 1995), that provide some level of evidence on conservatism, but cannot be the major explanations (Watts, 2003).

Contracting is an early explanation for conservatism. Its arguments are fully developed. Under the contracting explanation, conservative accounting is used as a tool to mitigate the moral hazard problem generated by asymmetric information, asymmetric payoffs, limited horizons and limited liability. Firms enter into many contracts. Two particularly important contracts are debt contracts between the firm and its debt-holders and executive compensation contracts between the firm and its managers. From the debt contracts perspective, debt-holders are more concerned on verifiable lower bound of the current value of net assets because the potential unverifiable gains of net assets do not add additional benefits. However, if the firm cannot guarantee enough net assets to cover the payments to debtholders, because of limited liability, lenders might have to receive less than promised. Therefore, debt-holders demand verifiable loss recognition to assure the minimum amount of net assets exceeds the dollar amounts of debt contracts. Nikolaev (2010) uses a sample of over 5,000 debt issues and finds evidence that reliance on covenants in public debt contracts is positively related with the degree of timely loss recognition. Beatty et al., (2008) also document a positive relationship between debt contract and the degree of timely loss recognition. This indicates that debtholders would prefer to use covenants to protect their own benefits under conservative accounting.

From compensation contracts perspective, managers have incentives to introduce bias and noise to accounting measures, because compensation package is partially based on accounting numbers. Conservatism constrains managerial opportunistic behavior and managerial biases with timely loss recognition and delaying gain recognition. On one hand, in order to maximize their benefits, managers are motivated to release information of potential gains in the future. On the other hand, conservatism assures the disclosure of losses which managers would like to hide. Basu(1997), Ball and Shivakumar (2005, 2006) and Kothari et al. (2005) explicitly address the role of accruals in asymmetrically timely loss recognition. In both debt contracts and compensation contracts, conservatism is regarded as an efficient corporate governance mechanism to mitigate agency costs by providing timely loss signals. Debtholders and shareholders can use conservative accounting to protect their benefits. Consequently, contracting is one of the explanations of conservatism in financial reports.

Litigation explanation asserts that, since firms are more likely to be sued if they overstate net assets than understate net assets (Kellogg, 1984; St. Pierre and Anderson, 1984), management and auditors have incentives to report conservative earnings and net asset values. Taxation explanation indicates that delaying the recognition of revenue and accelerating the recognition of expense enable managers of profitable firms to reduce taxes and increase the value of firm. Therefore, they have incentives to adopt conservative accounting. Similar to the taxation explanation, regulation explanation claims that regulators might face more criticism if firms overstate net assets than if they understate net assets. Thus, in order to reduce political costs, standard-setters and

regulators demand unconditional conservatism.

The above four factors (Watts, 2003a) that drive conservatism can be viewed as four sources of demands for accounting conservatism. Empirical evidences on the relation between conservatism and contracting and litigation explanations are more frequent in the literature. There are limited studies that illustrate the taxation and regulation explanations. Using the Basu (1997) regression model, Francis and Martin (2010) find that the positive association between timely loss recognition and acquisition profitability is more pronounced for firms with higher agency costs. Park and Wynn (2008) also provide evidence. This is consistent with contracting explanation. LaFond and Roychowdhury (2008) provide evidence that financial reporting conservatism is one potential mechanism to address agency problems between managers and shareholders, which imply economic demand for conservatism. By classifying conservatism into conditional and unconditional, Qiang (2007) directly test the four factors and finds that contracting only induces conditional conservatism; taxation and regulation only induces unconditional conservatism; litigation induces both. Drawing on sample of Spanish firms, Cano-Rodriguez (2010) concludes that large accounting firms promote conditional conservatism, thereby increasing the contracting efficiency of their clients' accounting information. His study indicates that large accounting firms also demand for conservative accounting.

More recently, LaFond and Watts (2008) provide evidence that information asymmetry generates conservatism. Since contracting explanation is somewhat related to information asymmetry, they control the impact of contracting and litigation explanations to find a significant association. This means information asymmetry captures something other than traditional sources of conservatism, shedding lights on new determinants of conservative accounting. They also highlight the long existence of conservatism. However, empirical studies testing information asymmetry as a source of conservatism is limited. The only exception is LaFond and Watts (2008) using U.S. data. One of the important implications of LaFond and Watts (2008) paper is that if the regulates ignore this causal relationship, their attempt to decrease information asymmetry by lowering the level of conservatism, incorporating more unverifiable value in financial reports might not be achieved. IFRS adoption is a typical example of moving away from conservative accounting, aiming at reducing information asymmetry which is opposite to LaFond and Watts predicted relationship. Therefore, we expect the IFRS adoption will induce a corresponding change in the level of conservatism and exert influence on the relationship between information asymmetry and conservatism. Our paper will add value to the literature from this point of view.

## **2.2 Conservatism Measure**

A number of measures of conservatism have been used in the conservatism literature. Wang et al. (2009) summarize five key measures of accounting conservatism. They are Basu's (1997) asymmetric timeliness of earnings measure, Ball and Shivakumar's (2005) asymmetric-cash-flow-to-accruals measure, the Market-to-Book ratio, Penman and Zhang's (2002) hidden-reserves measure, and Givoly and Hayn's (2000) negative-accruals measure.

Basu coefficient is the most widely used measure of accounting conservatism in the prior literature (Ryan, 2006; Wang et al., 2009). Wang et al. (2009) test the validity of five measures mentioned above under a construct validity perspective, addressing the question

of inconsistency among these measures. They present a survey reviewing papers which adopt measures of conservatism that have been widely applied and have been published in journals through to May 2009. The frequency table in their paper shows that Basu coefficient measure is by far the most frequently used measure for conservatism in the literature. Because of the extensive use of Basu coefficient, there are also plenty of critics towards it. Ryan (2006) point out that bad news as losses might not be reflected in earnings in a timely manner because of buffer problems in GAAP. Watts (2003) argues that certain economic events which are unrelated to conservatism will generate asymmetric timeliness of gain and loss recognition. Hanna (2003) identified several types of discretionary accounting behavior which might also affect asymmetric timeliness of gain and loss recognition. Givoly et al., (2006) argues that there is a little time-series consistency in estimates of asymmetric timeliness at the firm level. Despite of limitations, Ryan (2006) still argues that Basu coefficient is the most direct implication of conditional conservatism in asymmetric timeliness, comparing it with the measures suggested by Dietrich et al. (2007).

M/B ratio and negative accruals measure are the second and third used measure of accounting conservatism. Although Dietrich et al. (2007) suggest using them instead of Basu coefficient, which contains bias, to capture conservatism, Ryan (2006) strongly argues against their view and point out that these two measures are assessing the overall conservatism instead of conditional conservatism. Moreover, these measures are likely to be driven by unconditional conservatism. Therefore, they are likely not useful for measuring conditional conservatism unless the effect of conditional and unconditional conservatism can be separated. However, a key advantage of using M/B ratio to measure conservatism is that this measure is strongly rooted in the analytical work based on Residual Income Valuation Model (Feltham and Ohlson, 1995), which is one of the valuation models only under extremely simplistic and unrealistic assumptions in the accounting literature (Lo and Lys, 2002; Callen and Morel, 2002). But, using M/B ratio might have confounding problems, because it is also a well-known proxy for many factors other than accounting conservatism in accounting and finance literature, such as it is used to proxy for default risk in finance literature and growth in accounting literature, which is identical to conservatism in the Ohlson model.

Roychowdhury and Watts (2007) compare Basu coefficient and M/B ratio as measures of conservatism and investigate the relationship between these two proxies to address the question on the validity of asymmetric timeliness as an empirical measure of conservatism. An important basis for the question is the observed negative correlation between the Basu measure and M/B ratio. There are major two explanations for the negative correlation. First, theoretically, the benchmark for conservatism is separable net assets and changes in separable net assets by rents and changes in growth option. However, M/B and Basu coefficient assume this benchmark as equity value and changes in equity value. Thus, both M/B and the Basu coefficient measures of conservatism have errors. Second, they argue that the negative relationship is due to time horizons used in empirical research. When using short time horizon, Basu coefficient might fail to recognize gains that increase M/B and serve as a buffer problem. Nevertheless, Roychowdhury and Watts (2007) paper also asserts that the Basu coefficient is a better measure of conservatism because any noise introduced by growth options changes should be mitigate over long horizons (Basu, 1997; Pope and Walker, 1999; Ball et al., 2000). In summary, despite of critics, the Basu coefficient remained as the major measure of conditional conservatism.

However, one disadvantage of Basu coefficient is that it cannot make firm-specific measurements. In particular, the Basu (1997) coefficient has to be estimated either on an annual basis using a cross-section of observations or on a firm-specific basis using time-series observations. Both estimation methods have limitations. The former method assumes all firms in the industry are homogeneous and the latter method assumes that the firm's operating characteristics are stationary. Khan and Watts (2009) develop a conservatism measure, C\_Score, based on Basu (1997) regression model, incorporating firm-specific characteristics. C\_Score can reflect the timing of conservatism changes and the variation of conservatism across firms within an industry.

C\_Score has several advantages. First, it can reflect both time- and firm- specific changes affecting firm's financial reporting conservatism, such as a change in the information asymmetry caused by a firm-specific reduction in growth opportunities (LaFond and Watts, 2008). Second, it can be estimated for firms that only have positive returns, which the Basu coefficient cannot. This implies using C\_Score can enlarge sample size in conservatism studies. Third, introducing three firm-specific variables, it captures the four explanations- contracting, litigation, taxation and regulation- that drive conservatism as a whole. Although C\_Score has advantages stated before, it has not been widely used to measure conservatism so far. Therefore, this paper uses both Basu coefficients as major test and C\_Score for robust check the main hypothesis.

#### **4. HYPOTHESES**

It is unclear how accounting conservatism will change after the mandatory adoption of IFRS, which is an allegedly principle-based accounting method. It is possible that conservatism will decrease if, for example, investors expect higher financial reporting quality than original domestic standards after mandatory adoption of IFRS, thereby enhancing financial reporting transparency, reducing information asymmetry and information risk and, thus, lowering cost of capital. Accounting conservatism will decrease since information asymmetry and conservatism is positively associated (LaFond and Watts, 2008). This prediction is supported by prior research. For example, Armstrong et.al (2010) finds that investors react positively to firms with lower pre-adoption information quality, especially to banks when they adopt IFRS. Their findings are consistent with view that mandatory adoption of IFRS will mitigate information asymmetry. Similarly, Brochet et.al (2011) finds that private information reduces following IFRS adoption because of the increases in comparability. Daske et al. (2008) also provide early evidence on economic consequences after mandatory IFRS adoption. They document, on average, a decrease in firms' cost of capital and an increase in equity valuation in countries where firms have incentives to be transparent and where legal enforcement is strong. Using Basu coefficients, Piots et al. (2010) finds that conditional conservatism has decreased under IFRS, particularly among Big 4 audit firms.

However, it is also possible that accounting conservatism may increase after mandatory IFRS adoption if, for example, investors expect accounting numbers to be less verifiable. The credibility which is the most important characteristics of accounting playing as a role of information source comparing with other information sources, such as press or media, decreases. Therefore, investors will require higher rate of return, enhancing cost of capital. In addition, information asymmetry will increase if investors anticipate more earnings management. IFRS are principle-based standards with minimal

implementation guidance. After the adoption of IFRS, firms are more flexible in choosing accounting estimates methods and, thus, it is reasonable for investors to anticipate that managers will prefer accounting methods giving them more room to manage earnings. If this is the case, then, from managers' perspective, they have incentives to make the reported financial statement seem credible by choosing conservative accounting methods and, thus, enhance conservatism. LaFond and Watts (2008) argue that incorporating more fair value into financial statements, such as an increase in growth options, will generate an increase in information asymmetry and accounting conservatism. Ahmed et al. (2010) conclude that mandatory IFRS adoption will lower accounting quality, resulting in smoother earnings, more aggressive reporting of accruals, and a reduction in timeliness of loss recognition relative to gain recognition. Despite of concentrating on only three countries, namely Australia, France and UK, Jeanjean and Stolowy (2008) find that earnings management did not decline after IFRS adoption and even increased in France. Examining earnings management and timely loss recognition, Christensen et al. (2009) finds that accounting quality improvement after IFRS adoption are confined to firms with incentives to adopt and concludes that incentives are the most essential element on accounting standards in determining accounting quality. This indicates the change of earnings quality under mandatory IFRS adoption is still unclear. Accordingly, we hypothesize the following:

**H1:** The accounting conservatism changes after mandatory IFRS adoption.

We test this hypothesis in two parts:

**H1a:** The accounting conservatism increases after mandatory IFRS adoption.

**H1b:** The accounting conservatism decreases after mandatory IFRS adoption.

Mandatory IFRS adoption is a regulatory change in accounting standards. In hypothesis H1, we expect a change in conservatism after mandatory IFRS adoption, no matter increases or decreases. The next question is what drives this change of conservatism. One possible reason is that parties closely related to or using accounting numbers might respond correspondently to this change and, therefore, generate a change in their demands for accounting conservatism. There are four traditional explanations, contracting, litigation, taxation, and regulation, which are mentioned before as a whole, because there is reason to believe that these four factors are not independent (Watts, 2003b). Moreover, on the base of Basu coefficient, C\_Score adds three more variables-M/B, size and leverage-that are widely available and commonly used as proxies for the firm's investment opportunity set (IOS) which lead to the change of four factors.

Another possible reason that might explain the change of conservatism after mandatory IFRS adoption is the change in information asymmetry. LaFond and Watts (2008) argue that information asymmetry between firm insiders and outside investors generates conservatism in financial statements. This implies that information asymmetry might be another determinant of conservatism. Generally speaking, more unverifiable current value of future cash flow will be estimated and shown in the financial statements (Piot et al., 2010). For example, IFRS requires the recognition of in-house intangible assets, while it remains optional under continental national GAAP. The more unverifiable items are included, the higher level of information asymmetry between managers and outside investors. If this is the case, then, the change of accounting conservatism after IFRS adoption might be the result of change in information asymmetry. Further, LaFond and Watts (2008) document a positive relationship between information asymmetry and conservatism. Consequently, we hypothesize the following:

**H2:** The change of accounting conservatism after IFRS adoption is positively related to the change in information asymmetry.

If we find information asymmetry is the significantly driver for the change in conservatism after mandatory IFRS adoption, then, what is the specific effect of IFRS on the relationship between information asymmetry and conservatism? On one hand, mandatory IFRS adoption might strengthen the relationship between them. IFRS, which is a principle-based accounting standard, require firms to incorporate more fair value into financial statements, especially the change in goodwill, research and development expenses (R&D), and asset revaluation (Aharony et al., 2010). This suggests that accounting number will be less reliable, because of recognizing more unverifiable gains. Also, more opportunistic earnings management will be expected. Given this case, debt-holders, share holders, and auditors are more eager for conservative accounting. Therefore, in this sense, mandatory adoption of IFRS strengthens the association between information asymmetry and conservatism. However, it is also possible that the relationship is weakened by IFRS adoption, because related parties might turn to other information sources for help, such as increasing option-based compensation and decreasing earnings-based compensation. Accordingly, we hypothesize the following:

**H3a:** The IFRS adoption strengthens the relationship between information asymmetry and conservatism.

**H3b:** The IFRS adoption weakens the relationship between information asymmetry and conservatism.

LaFond and Watts (2008) argue that conservative financial reports are likely to generate a more informed capital market than financial reports that include unverifiable information. This means accounting conservatism is positively related with the information environment. Although accounting cannot reduce information asymmetry by providing more unverified information, conservative accounting still can benefit the information environment between equity investors through other ways. On one hand, conservative accounting provides hard information on firms' current performance. High verification criteria of gains and low verification criteria of losses is likely to limit manager's tendency of overstating unverifiable gains and understating losses, making the gains and losses presented in financial statements credible. Thus, conservative accounting can facilitate the flow of information and result in a better information environment. On the other hand, conservative accounting serves as a bench-mark for other information sources. If there is potential gains affecting future cash flow but are not allowed to be recorded in financial statement according to accounting standards, managers have incentives to release those good news through other information sources, such as manager comments or press release. Conservative accounting can discipline other sources of information (Watts, 2006). Equity investors can compare other sources of information to the conservative financial statement information, evaluating information reliably. Thus, as a bench-mark, conservative accounting may result in a better information environment.

IFRS adoption, which is moving away from conservative accounting, indicates lowering the verification criteria of gains, incorporating more unverifiable information in financial statements, and, thus, making accounting information more unreliable. Since we expect a change in the level of conservatism after mandatory IFRS adoption, there might associate a change of information environment in European countries in the same

direction. Consequently, we hypothesize the following:

**H4:** The conservatism is positively related to firms' information environment under IFRS adoption.

## 5. RESEARCH DESIGNERS

### 5.1 Conservatism Measure

First, we run Basu(1997) model to get Basu coefficients on pooled data and, then, on three groups of firms separated by by IFRS adoption timing- early, on-time, and late.

Second, we use C\_Score (Khan and Watts, 2009) to proxy accounting conservatism. Empirical evidence related to application of C\_Score is limited. Khan and Watts (2009) demonstrate the validity of C\_Score by using U.S. data. Lai and Taylor (2008) provide evidence that conservatism, measured by C\_Score, is a pervasive attribute of financial reporting under Australian GAAP. Specifically, we first estimate C\_Score for each firm per year by using the following equation:

$$X_{i,t}/P_{i,t-1} = \beta_0 + \beta_1 D_{i,t} + R_{i,t}(\mu_0 + \mu_1 Size_{i,t} + \mu_2 M/B_{i,t} + \mu_3 Lev_{i,t}) + D_{i,t}R_{i,t}(\lambda_0 + \lambda_1 Size_{i,t} + \lambda_2 M/B_{i,t} + \lambda_3 Lev_{i,t}) + (\delta_1 Size_{i,t} + \delta_2 M/B_{i,t} + \delta_3 Lev_{i,t} + \delta_4 D_i Size_{i,t} + \delta_5 D_{i,t} M/B_{i,t} + \delta_6 D_{i,t} Lev_{i,t}) + \varepsilon_{i,t} \quad (1)$$

where X is earnings per share; P is year-end stock price per share; R is the return on firm i from 9 months before fiscal year-end t to 3 months after fiscal year-end t, total 12-month return; D is a dummy variable that equals 1 if R is negative and 0 otherwise; Size is the natural logarithm of market value of equity at the end of year; M/B is market-to-book ratio; Lev is leverage ratio that is defined as the sum of short-term and long-term debt divided by market value of equity at the end of year. Fama-MacBeth regression estimates Equation (1), yielding  $\lambda_0$  to  $\lambda_3$ . Then, we can calculate C\_Score for each firm-year as Equation (2)

$$C\_Score_{i,t} = \lambda_0 + \lambda_1 Size_{i,t} + \lambda_2 M/B_{i,t} + \lambda_3 Lev_{i,t} \quad (2)$$

where Size is the natural logarithm of market value of equity; M/B is market-to-book ratio; Lev is leverage ratio, defined as the sum of short-term and long-term debt divided by market value of equity. Four factors that drive conservatism vary with firm's investment opportunity set (IOS). Therefore, instead of measuring the individual effects of the four factors, Khan and Watts (2009) use three firm-specific variables- size, M/B and leverage- to capture variation in IOS which vary with four factors. In our study, we consider all the four factors as a whole.

In Equation (1), the coefficients  $\lambda_0, \lambda_1, \lambda_2, \lambda_3$  are used to calculate C\_Score in Equation (2). Then, we average the C\_Score for each year and plot them to see the moving trend of the level of accounting conservatism after mandatory IFRS adoption. According to Hypothesis 1, we expected a change after 2005, which means the accounting conservatism is affected by the adoption of IFRS. However, the direction is unknown. It may increase (H1a) or decrease (H1b).

One thing might be noticed is that C\_Score is motivated from the four determinants (contracts, litigation, taxation, regulation) of conservatism in the U.S. Khan and Watts (2009) caution that it might not be an appropriate conservatism measure in studies using data from countries where the institutional features differ from U.S. institutional features in important ways, such as countries with a weak legal enforcement regime. To address this concern, we plan to examine whether C\_Score can effectively distinguish firms with different levels of conservatism consistent with other commonly used conservatism measure, basically the Basu (1997) coefficients. In addition, Givoly et al. (2007) examine the power and reliability of the Basu coefficient. They identify three certain characteristics of the information environment unrelated to conservatism that affect the Basu coefficient. They are aggregation effect, nature of the economic events effect, and disclosure policy effect. Thus, they suggest that we can't rely on any single measure to assess the overall conservatism (Gigler and Hemmer, 2001). This is also the reason that our paper includes two different measures of conservatism---the Basu coefficient, and C\_Score, even though C\_Score is developed from the Basu model.

We estimate the Basu (1997) regression again on the pooled data but with three levels of C\_Score groups- low, median, and high C\_Score groups. Then, the following regression is estimated for each group.

$$X_{i,t}/P_{i,t-1} = \beta_0 + \beta_1 D_{i,t} + \beta_2 R_{i,t} + \beta_3 D_{i,t} R_{i,t} + \varepsilon_{i,t} \quad (3)$$

where X/P is earnings scaled by lagged price; R is the return on firm i from 9 months before fiscal year-end t to 3 months after fiscal year-end t, total 12-month return on; D is a dummy variable equal to 1 if returns are negative, and 0 elsewhere.  $\beta_2$  refers to the Basu coefficients for good news.  $\beta_3$  measures the level of conservatism. If the Basu coefficients from the regression increase with C\_Score groups, we conclude that the C\_Score measure is effective in distinguishing between firms in European countries with different levels of conservatism based on the Basu conservatism measure. We calculate the Basu coefficients under fiscal period returns. Despite Basu tests a number of other specifications in his paper, all of them come up with similar results. Therefore, we compare C\_Score with the Basu coefficients under fiscal period returns. One thing worth to notice when using Basu coefficients is the buffer problem which causes the annual Basu coefficients to understate the degree of conservatism. However, the buffer problem can be released by using long horizon to estimate asymmetric timeliness (Basu, 1997).

## 5.2 Information asymmetry measure (Bid-Ask spread)

We use bid-ask spread to test the changes of information asymmetry after mandatory adoption of IFRS. In accounting prior literature, bid-ask spread is a commonly used proxy for information asymmetry (Welker, 1995; Healy et al., 1999; Leuz et al., 2000; Daske et al., 2008). It measures the information asymmetry between inside and outside investors in trading markets. We obtain the daily closing bid and ask prices for each day from IBES and compute the daily spread as the difference between bid price and ask price. The bid-ask spread for a firm-year is the average of the daily spreads for that firm-year and, then, scaled by the midpoint of the spread.

Hypotheses 2 investigate the positive relationship between information asymmetry and accounting conservatism. We test the hypotheses by following equation:

$$X_{i,t}/P_{i,t-1} = \beta_0 + \beta_1 D_{i,t} + \beta_2 R_{i,t} + \beta_3 D_{i,t} R_{i,t} + \beta_4 Bid/Ask_{i,t} + \beta_5 Bid/Ask_{i,t} D_{i,t}$$



$$+\beta_6 Bid/Ask_{i,t} R_{i,t} + \beta_7 Bid/Ask_{i,t} D_{i,t} R_{i,t} + \varepsilon_{i,t} \quad (4)$$

where Size, M/B, and Lev as defined before; Bid/Ask represents the level of information asymmetry after mandatory IFRS adoption. Coefficient  $\beta_7$  is expected to be positive, because the information asymmetry and conservatism change in the same direction (LaFond and Watts, 2008).

We test the effect of IFRS on the relationship between information asymmetry and conservatism (H3) by following regression.

$$\begin{aligned} X_{i,t}/P_{i,t-1} = & \beta_0 + \beta_1 D_{i,t} + \beta_2 R_{i,t} + \beta_3 D_{i,t} R_{i,t} + \beta_4 Bid/Ask_{i,t} + \beta_5 Bid/Ask_{i,t} D_{i,t} + \\ & \beta_6 Bid/Ask_{i,t} R_{i,t} + \beta_7 Bid/Ask_{i,t} D_{i,t} R_{i,t} + \beta_8 IFRS_{i,t} + \beta_9 IFRS_{i,t} D_{i,t} + \\ & \beta_{10} IFRS_{i,t} R_{i,t} + \beta_{11} IFRS_{i,t} D_{i,t} R_{i,t} + \beta_{12} IFRS_{i,t} Bid/Ask_{i,t} + \\ & \beta_{13} IFRS_{i,t} Bid/Ask_{i,t} D_{i,t} + \beta_{14} IFRS_{i,t} Bid/Ask_{i,t} R_{i,t} + \\ & \beta_{15} IFRS_{i,t} Bid/Ask_{i,t} D_{i,t} R_{i,t} + \varepsilon_{i,t} \end{aligned} \quad (5)$$

where X/P is earnings scaled by lagged price; R is the 12-month fiscal return on firm i; D is a dummy variable equal to 1 if returns are negative, and 0 elsewhere; Bid/Ask represents the level of information asymmetry after mandatory IFRS adoption. According to Hypothesis 3, the sign of coefficient  $\beta_{15}$  can be positive (H3a) or negative (H3b).

### 5.3 Information environment and conservatism

Prior research by Gebhardt et al. (2001) and Lang et al. (2003) uses the characteristics of analyst forecasts as a proxy for the information environment. Houston et al. (2006) provide evidence that greater coverage by analysts is negatively related to information asymmetry between firms and investors. Consequently, it has been used to proxy for a firm's information environment. Consistent with prior literature, we also use analyst variables- the accuracy of analyst forecasts and the number of analysts following the firm, as indicative of changes in a firm's information environment.

To investigate the effect of conservatism on information environment, we test the differences in analyst variables before and after mandatory IFRS adoption in 2005 for all firms. Consequently, we generate the following equation:

$$IE_{i,t} = \gamma_1 + \gamma_2 C\_Score_{i,t} + \sum_j^N \gamma_j controls + \varepsilon_{i,t} \quad (6)$$

where  $IE_{i,t}$  is either forecast error, analyst following or volatility of revisions for firm i and time period t. Following Horton and Serafeim (2010), forecast error is the absolute error deflated by the closing stock price of the previous year (Cheong and Thomas, 2011). Analyst following is the number of analysts forecasting earnings per share for a firm. C\_Score is defined as before and calculated from Equation (2). Controls are control variables suggested by previous literature, including market value, forecast horizon, earnings surprise, and market return. If the coefficient  $\gamma_2$  is significant and positive, information environment and conservatism is positively correlated, indicating more conservative accounting is associated with a higher level of information environment.

## 6. SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

We request publicly listed companies geographically located in one of the European community countries in the WorldScope database. This initial query yielded 6,171 firms. The accounting and stock return data are from Worldscope and Datastream. Analysts' forecast data are from IBES. We delete firms whose accounting standards are unknown, firms who are non-IFRS adopters until 2010, firms with negative market-to-book ratio, and also firms with missing data of the major variables to test accounting conservatism. The final sample includes 1,954 firms from 19 countries<sup>55</sup>. The test time period ranges from 2001 to 2010, covering both the pre-IFRS period and post-IFRS period. We group the sample firms according to countries and IFRS adoption timing. Table 1 summarizes the results.

Table 1: Sample firms breakdown according to country and IFRS adoption timing

Country	N	Early (%)	On-time (%)	Late (%)
AT: Austria	39	<b>13.99</b>	0.81	0.38
BE: Belgium	65	5.7	3.80	1.33
CZ: Czech Republic	6	1.55	0.24	0
DE: Germany	272	<b>58.55</b>	9.87	7.03
DK: Denmark	88	4.66	4.61	4.18
ES: Spain	78	0.52	6.07	0.38
FI: Finland	71	3.63	4.85	0.76
FR: France	315	1.04	<b>20.06</b>	<b>12.36</b>
GB: United Kingdom	529	0.52	<b>14.89</b>	<b>65.04</b>
GR: Greece	95	0.52	7.44	0.38
HU: Hungary	12	3.63	0.32	0.19
IE: Ireland	29	0	1.46	2.09
IT: Italy	111	0	8.09	2.09
LU: Luxembourg	10	2.07	0.40	0.19
NL: Netherlands	76	1.55	5.50	0.95
PL: Poland	21	0.52	1.54	0.19
PT: Portugal	31	0.52	2.35	0.19
SE: Sweden	106	0.52	7.69	1.90
SK: Slovakia	1	0.52	0	0
<b>Total</b>	<b>1954</b>	100	100	100

Table 1 shows sample firm breakdown according to country and IFRS adoption timing. The full sample contains 1954 firms from 19 European countries. Firms adopting IFRS before 2005 are regarded as early adopters; firms adopting IFRS in 2005 are regarded as on-time adopters; firms adopting IFRS after 2005 are regarded as late adopters.

Table 1 shows different IFRS adoption patterns across the European countries included in this paper. Early adopters refer to firms adopting IFRS before 2005; on-time adopters are regarded as firms adopting IFRS in 2005; late adopters are firms adopting IFRS after 2005. Consist with prior studies (e.g., Daske et al. 2008; Piot et al. 2010),

<sup>55</sup> The 19 countries in this study include Austria, Belgium, Czech Republic, Germany, Denmark, Spain, Finland, France, United Kingdom, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Sweden, and Slovakia.

more than 50% of IFRS early adopters are Germany firms. Austria firms ranks second. Conversely, France and United Kingdom seem to simply follow the requirement. About 35% of on-time adopters are France and United Kingdom firms. In addition, over 75% of late adopters are from France and United Kingdom. Overall, the majority firms in sample are from United Kingdom, France, Germany, Italy, and Sweden. They cover approximately 70% of 1,954 firms.

Table 2: Descriptive Statistics

	<u>Mean</u>	<u>StdDev</u>	<u>Q1</u>	<u>Median</u>	<u>Q3</u>	<u>Min</u>	<u>Max</u>
<i>Variables used in calculating Basu coefficient and C_Score</i>							
Earnings-Price ratio	0.037	0.485	0.003	0.031	0.078	-0.186	0.124
Return	0.078	0.493	-0.173	0.057	0.267	-0.964	0.340
Size	13.737	2.836	11.600	13.500	15.700	5.050	23.34
M/B	2.980	2.713	2.060	2.477	4.925	0.003	9.678
Lev	1.086	3.439	0.054	0.239	0.852	0.002	4.349
<i>Variables used in information environment model</i>							
Forecast error	0.243	2.648	0.005	0.014	0.045	0.000	11.35
Analyst following	50.220	59.781	9	29	71	1	555
Forecast horizon	5.271	0.422	5.176	5.258	5.398	-2.511	6.345
Earnings surprise	0.032	0.520	-0.013	0.001	0.028	-1.547	1.511

Table 2 shows descriptive statistics for 19,540 firm-years between 2001 and 2010. The mean, standard deviation (StdDev), median and first (Q1) and third (Q3) quartiles are reported. Earnings-Price ratio is calculated as earnings per share (Worldscope item #05201) divided by price (Worldscope item #05001). Return is the return on each firm from 9 months before fiscal year-end to three months after fiscal year-end, including dividend paid and adjusted for stock dividends and capital contributions (Datastream). Size is the natural log of market value of equity. Market value of equity is calculated as common shares outstanding (Worldscope item #05301) times price (Worldscope item #05001). M/B stands for the market-to-book ratio of common equity based on the closing price at year end. Lev is leverage, defined as short-term debt (Worldscope item #03051) and long-term debt (Worldscope item #03251) divided by market value of equity calculated before.

Forecast error is the absolute error divided by the closing stock price of the previous year. Analyst following is the natural log of the number of analysts forecasting earnings per share for a firm. Forecast horizon is defined as the natural log of the number of days between the forecast's issue date and the earnings announcement date. Earnings surprise is defined as the change in earnings per share between two years divided by the closing stock price of the previous year.

Table 2 summarizes descriptive statistics of main variables required to calculate C\_Score for the full sample and test analyst information environment. The mean, standard deviation, median, first and third quartiles as well as minimum and maximum numbers are reported. Earnings-Price ratio is calculated as earnings per share divided by price per share. Mean (median) Earnings-Price ratios are 0.037 (0.031). Return is defined as the return on each firm from 9 months before fiscal year-end to three months after fiscal year-end, including dividend paid and adjusted for stock dividends and capital contributions. Mean (median) returns are 0.078 (0.057). Size is the natural log of market value of equity. Mean (median) sizes are 13.737 (13.500). Market-to-Book ratio is

calculated as market value of equity divided by common equity. Mean (median) Market-to-Book ratios are 2.980 (2.477). Lev is defined as short-term debt and long-term debt divided by market value of equity. Mean (median) leverages are 1.086 (0.239). The distributions of these five variables are similar to those reported in prior literature (e.g. Khan and Watts, 2009). However, the mean Size is large, suggesting that European firms have large market value of equity. Size, Market-to-Book, and Lev variables capture firm characteristics that are widely available and commonly used, as well as four traditional explanations of accounting conservatism in prior literature<sup>56</sup>.

The rest of the four variables in Table 2 are used in information environment model. Forecast error is the absolute error divided by the closing stock price of the previous year. Mean (median) of forecast error is 0.243 (0.014). The standard deviation of forecast error is 2.648, suggesting that analysts have quite different views towards earnings per share for next period. This circumstance might be the result of unclear future economic trend. Analyst following is the natural log of the number of the number of analysts forecasting earnings per share. Mean (median) of analyst following is 50.220 (29). Forecast horizon is defined as the natural log of the number of days between the forecast's issue date and the earnings announcement date. Mean (median) of forecast horizon is 5.271 (5.285). Earnings surprise is the change in earnings per share between two years deflated by the closing stock price of the previous year. Mean (median) of earnings surprise is 0.032 (0.001). Except for Forecast error, the distribution of the rest analyst forecast variables are consistent with prior literature (Horton and Serafeim, 2010).

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<sup>56</sup> Khan and Watts (2009) present more detailed explanations towards this argument.

Table 3: Correlation Matrix (Pearson Top; Spearman Bottom)

	<u>Earnings-Price</u> <u>ratio</u>	<u>Size</u>	<u>M/B</u>	<u>Lev</u>	<u>Forecast</u> <u>Error</u>	<u>Analyst</u> <u>Following</u>	<u>Forecast</u> <u>Horizon</u>	<u>Earnings</u> <u>Surprise</u>
Earnings-Price ratio	1	0.085 <sup>a</sup>	-0.038	-0.048 <sup>a</sup>	-0.030 <sup>c</sup>	0.034 <sup>c</sup>	-0.022 <sup>c</sup>	0.107 <sup>a</sup>
Size	0.070 <sup>a</sup>	1	0.341 <sup>a</sup>	-0.045 <sup>a</sup>	-0.057 <sup>a</sup>	0.351 <sup>a</sup>	0.091 <sup>a</sup>	-0.038 <sup>b</sup>
M/B	-0.102 <sup>a</sup>	0.542 <sup>a</sup>	1	-0.247 <sup>a</sup>	-0.018	-0.020	0.069 <sup>a</sup>	-0.013
Lev	0.029 <sup>a</sup>	-0.097 <sup>a</sup>	-0.664 <sup>a</sup>	1	0.018 <sup>c</sup>	0.014	0.062	0.025 <sup>d</sup>
Forecast Error	-0.021 <sup>a</sup>	-0.115 <sup>a</sup>	-0.203 <sup>a</sup>	0.060 <sup>a</sup>	1	-0.020 <sup>b</sup>	0.103 <sup>a</sup>	0.012 <sup>b</sup>
Analyst Following	0.087 <sup>a</sup>	0.432 <sup>a</sup>	-0.073 <sup>a</sup>	0.037 <sup>b</sup>	-0.085 <sup>a</sup>	1	0.113 <sup>a</sup>	0.007
Forecast Horizon	-0.086 <sup>a</sup>	0.128 <sup>a</sup>	0.102 <sup>a</sup>	-0.092 <sup>a</sup>	0.073 <sup>d</sup>	0.178 <sup>a</sup>	1	0.027 <sup>b</sup>
Earnings Surprise	0.363 <sup>a</sup>	-0.045 <sup>a</sup>	0.041 <sup>b</sup>	0.019	0.014	-0.007	0.035 <sup>b</sup>	1

Table 3 shows correlations for 9,237 firm-years between 2001 and 2010. The upper (lower) right triangle of the matrix shows Pearson (Spearman) correlations. Earnings-Price ratio is calculated as earnings per share (Worldscope item #05201) divided by price (Worldscope item #05001). Return is the return on each firm from 9 months before fiscal year-end to three months after fiscal year-end, including dividend paid and adjusted for stock dividends and capital contributions (Datastream). Size is the natural log of market value of equity. Market value of equity is calculated as common shares outstanding (Worldscope item #05301) times price (Worldscope item #05001). M/B stands for the market-to-book ratio of common equity based on the closing price at year end. Lev is leverage, defined as short-term debt (Worldscope item #03051) and long-term debt (Worldscope item #03251) divided by market value of equity.

Forecast error is the absolute error divided by the closing stock price of the previous year. Analyst following is the natural log of the number of analysts forecasting earnings per share for a firm. Forecast horizon, earnings surprise, size, and return are control variables that might affect the analyst variables. Forecast horizon is defined as the natural log of the number of days between the forecast's issue date and the earnings announcement date. Earnings surprise is defined as the change in earnings per share between two years divided by the closing stock price of the previous year.

a, b, c, d denotes two-tailed significance at  $p$  inferior to 0.001, 0.01, 0.05, and 0.10, respectively.

Table 3 shows the correlation matrix for variables used in calculating C\_Score and testing information environment, over the period 2001 to 2010. The upper (lower) right triangle reports the Pearson (Spearman) correlations. Earnings-Price ratio is positively correlated with Size, but is negatively correlated with Market-to-Book ratio and Lev. The Pearson (Spearman) correlation between leverage and M/B is -0.247 (-0.664), consistent with Khan and Watts (2009). Forecast error is negatively correlated with number of analyst following. Consist with the prior literature (Clement, 1999), forecast horizon is positively related to forecast error, suggesting the longer the time between forecast and actual earnings announcement, the higher forecast error. Earnings surprise exhibits a positive correlation with forecast error and a negative relationship with number of analysts following.

## 7. RESULTS

### 7.1 Accounting conservatism after IFRS adoption

At the top of Table 4, we report the Basu coefficient of each sample. We can see that Early IFRS adopters have the highest level of accounting conservatism (Basu coefficient = 1.48,  $t = 12.49$ ). This result provide evidence that firms become less conservative after IFRS adoption, no matter early, on-time, or late adopters.

Then, we calculate C\_Score, which represent the level of accounting conservatism, for each firm. To do so, we estimate the Fama-Mecbeth regression in Equation (1) annually and, then, summarize the mean coefficients over the 10 years in Table 4. After getting the coefficients, we calculate the C\_Score for a firm-year as given in Equation (2), using coefficients in Table 4.

Table 4: Mean Coefficients from Estimation Regression of Equation (1) and (3)  
(Dependent Variable is calculated by extracting data from Worldscope)

	<u>Pooled</u>	<u>Early</u>	<u>On-time</u>	<u>Late</u>
Basu Coefficient	<b>0.82880</b> (30.89) <sup>a</sup>	<b>1.48116</b> (12.49) <sup>a</sup>	<b>0.99491</b> (28.43) <sup>a</sup>	<b>0.22994</b> (6.77) <sup>a</sup>
Intercept	0.093 (4.04) <sup>b</sup>	-0.084 (-1.46)	0.060 (1.98) <sup>d</sup>	0.057 (1.11) <sup>d</sup>
D	0.261 (2.39) <sup>c</sup>	0.320 (1.58) <sup>c</sup>	0.252 (4.26) <sup>b</sup>	0.131 (0.84)
R	0.030 (2.71) <sup>c</sup>	0.109 (0.99)	0.078 (3.99) <sup>b</sup>	0.038 (3.49) <sup>a</sup>
R x Size	0.012 (4.01) <sup>a</sup>	0.008 (1.20)	0.004 (0.66)	0.006 (1.56) <sup>d</sup>
R x M/B	-0.003 (-1.31)	0.039 (0.60)	-0.001 (-1.12)	-0.002 (-0.57)
R x Lev	0.021 (0.43)	0.127 (1.08)	0.018 (0.81)	-0.051 (-0.46)
D x R	<b>2.747</b> (11.79) <sup>a</sup>	<b>1.566</b> (8.30) <sup>a</sup>	<b>3.174</b> (15.95) <sup>a</sup>	<b>0.562</b> (7.03) <sup>a</sup>
D x R x Size	<b>-0.164</b> (-9.06) <sup>a</sup>	<b>-0.106</b> (-7.53) <sup>a</sup>	<b>-0.203</b> (-15.05) <sup>a</sup>	<b>-0.057</b> (-1.67) <sup>d</sup>
D x R x M/B	<b>-0.004</b> (-2.08)	<b>-0.249</b> (-4.04) <sup>c</sup>	<b>-0.001</b> (0.19)	<b>-0.002</b> (-0.52)
D x R x Lev	<b>0.101</b> (1.94) <sup>d</sup>	<b>0.459</b> (5.20) <sup>b</sup>	<b>0.125</b> (5.80) <sup>a</sup>	<b>0.336</b> (2.35) <sup>c</sup>
Size	0.003 (2.18)	0.009 (2.72)	0.001 (0.07)	-0.003 (-1.05)
M/B	-0.038 (-2.48) <sup>b</sup>	-0.003 (-0.56)	-0.0013 (-4.06) <sup>a</sup>	0.003 (0.10)
Lev	0.006 (0.70)	-0.013 (-9.25) <sup>a</sup>	-0.009 (-2.42) <sup>c</sup>	0.089 (5.20) <sup>a</sup>
D x Size	-0.016 (2.16) <sup>c</sup>	-0.026 (-1.44)	-0.017 (-2.79) <sup>b</sup>	-0.012 (-4.52) <sup>a</sup>
D x M/B	0.005 (1.33)	-0.055 (-1.30) <sup>d</sup>	0.004 (0.51)	-0.002 (-1.97) <sup>c</sup>
D x Lev	0.095 (3.03) <sup>c</sup>	0.163 (1.16)	0.032 (1.62) <sup>d</sup>	0.075 (8.47) <sup>a</sup>

Number of Observation	19,029	1901	12107	5021
C_Score	<b>0.568519</b>	<b>0.951888</b>	<b>0.597556</b>	<b>0.355085</b>

Table 4 shows mean coefficients from annual Fama-Macbeth regressions of the following model, on a sample of 19,540 firm-years from 2001 to 2010.

$$X_{i,t}/P_{i,t-1} = \beta_0 + \beta_1 D_{i,t} + R_{i,t}(\mu_0 + \mu_1 Size_{i,t} + \mu_2 M/B_{i,t} + \mu_3 Lev_{i,t}) + D_{i,t}R_{i,t}(\lambda_0 + \lambda_1 Size_{i,t} + \lambda_2 M/B_{i,t} + \lambda_3 Lev_{i,t}) + (\delta_1 Size_{i,t} + \delta_2 M/B_{i,t} + \delta_3 Lev_{i,t} + \delta_4 D_i Size_{i,t} + \delta_5 D_{i,t} M/B_{i,t} + \delta_6 D_{i,t} Lev_{i,t}) + \varepsilon_{i,t}$$

(1)

$$X_{i,t}/P_{i,t-1} = \beta_0 + \beta_1 D_{i,t} + \beta_2 R_{i,t} + \beta_3 D_{i,t} R_{i,t} + \varepsilon_{i,t}$$

(3)

D is a dummy variable equal to 1 if returns are negative and 0 elsewhere. Size is the natural log of market value of equity. Market value of equity is calculated as common shares outstanding (Worldscope item #05301) times price (Worldscope item #05001). M/B stands for the market-to-book ratio of common equity based on the closing price at year end. Lev is leverage, defined as short-term debt (Worldscope item #03051) and long-term debt (Worldscope item #03251) divided by market value of equity calculated before. The coefficients estimates in the table are used to calculate C\_Score.

Firms adopting IFRS before 2005 are regarded as early adopters; firms adopting IFRS in 2005 are regarded as on-time adopters; firms adopting IFRS after 2005 are regarded as late adopters; Firms that use accounting standards other than IFRS in 2010, such as local standards, International standards, or U.S. GAAP, are regarded as non-adopters.

T-statistics are in the brackets. a, b, c, d denotes two-tailed significance at  $p$  inferior to 0.001, 0.01, 0.05, and 0.10, respectively.

Table 4 shows the mean coefficients from estimation regression of Equation (1) and (3). The first column reports coefficients from full pooled sample. The rest are over several sample breakdowns according to IFRS adoption timing: Early, On-time, and Late. In both pooled and breakdown samples, earnings and returns, which are represented by coefficients of R and DxR, are significantly positive, suggesting both good news and bad news will be reflected in earnings. This result is consistent with that in Basu (1997). The positive coefficient of DxR indicates that firms are conservative on average. In addition, the coefficients of DxRxSize are significantly negative. Consistent with previous studies (Giner and Rees, 2001; Basu, 2001), this result means that larger firms are more likely to have lower level of accounting conservatism. The coefficients of DxRxLev are significantly positive, consistent with the idea that more levered firms have higher level of accounting conservatism (Basu et al., 2001, Ball and Shivakumar, 2005; Beaver and Ryan, 2009). However, the signs of DxRxM/B are mixed across pooled and breakdown samples. Also, the coefficients of DxRxM/B are insignificant. These results are likely due to the buffer problem which has been mentioned in previous section. The mean coefficients of DxR, DxRxSize, DxRxM/B<sup>57</sup>, and

<sup>57</sup> Even though the coefficient of DxRxM/B is insignificant, this result is consistent with Khan and Watts (2009).

DxRxLev are used to calculate C\_Score in Equation (2).

At the bottom of Table 4, we report the average C\_Score of each sample. We can see that Early IFRS adopters have the highest level of accounting conservatism (C\_Score = 0.9518). This result provides the same evidence as Basu coefficients.

One concern of using C\_Score to measure accounting conservatism is worth noting. Khan and Watts (2009) caution that C\_Score may not be appropriate to proxy for accounting conservatism in countries or regions other than U.S. because of the different institutional features. Therefore, we rank the firms according to their C\_Score and divide them into three groups, representing three level of accounting conservatism (low, medium, and high). Then, we run Basu (1997) returns-based asymmetric timeliness model for each group.

Table 5: Coefficients from Basu (1997) regressions by high, medium, and low C\_Score groups

<b>C_Score Group</b>	<b>Intercept</b>	<b>D</b>	<b>R</b>	<b>D x R</b>
G1 (Low)	0.0275 (10.33)	0.0542 (2.97)	0.0032 (1.16)	<b>0.0912</b> (10.33) <sup>a</sup>
G2 (Medium)	0.0602 (1.54)	0.0086 (1.85)	0.1033 (7.57)	<b>0.2300</b> (14.35) <sup>a</sup>
G3 (High)	0.0592 (3.96)	0.1697 (6.41)	0.1608 (8.52)	<b>1.4483</b> (22.49) <sup>a</sup>
High-Low				<b>1.3571</b>

Table 5 examines the validity of C\_Score in distinguishing different level of accounting conservatism by detecting the trend of coefficients in Basu (1997) model. Firms are first classified into three equal-size groups by C\_Score, and, then, we estimate the following regression for each group:

$$\text{Basu (1997) model: } X_{i,t}/P_{i,t-1} = \beta_0 + \beta_1 D_{i,t} + \beta_2 R_{i,t} + \beta_3 D_{i,t} R_{i,t} + \varepsilon_{i,t}$$

X is earnings per share; P is year-end stock price per share. X/P ratio here is calculated as earnings per share (Worldscope item #05201) divided by price (Worldscope item #05001). Return is the return on each firm from 9 months before fiscal year-end to three months after fiscal year-end, including dividend paid and adjusted for stock dividends and capital contributions (Datastream); D is a dummy variable which equals 1 if R is negative and 0 elsewhere.

Table 5 examines the validity of C\_Score in distinguishing different level of accounting conservatism by detecting the trend of coefficients in Basu (1997) model. The coefficients DxR increase across the three groups from 0.0912 (t=10.33) to 1.4483 (t=22.49). This result is consistent with the trend of changing accounting conservatism ranked by C\_Score. The difference between high and low C\_Score group is 1.3571. Consequently, the C\_Score measure of accounting conservatism is effective in distinguish EU firms, because of the same trend of changing Basu coefficients.

After checking the validity of C\_Score, we sort the firms by years and average the C\_Score of all the firms. Also, we run Basu (1997) model of each year. Finally, it comes up with 10 averages C\_Score and 10 Basu coefficients from 2001 to 2010.



Table 6: Comparison of C\_Score and Basu Coefficient per year (pooled)

<u>Year</u>	<u>C_Score<sub>t</sub></u>	<u>Basu Coefficient</u>
2001	0.603121	1.15406 (11.68) <sup>a</sup>
2002	0.679558	1.58523 (8.02) <sup>a</sup>
2003	0.481594	0.93303 (14.67) <sup>a</sup>
2004	0.568708	0.87609 (8.10) <sup>a</sup>
2005	<b>0.519725</b>	<b>0.69996</b> (3.78) <sup>b</sup>
2006	0.464116	0.56895 (7.05) <sup>a</sup>
2007	0.446740	0.61411 (6.57) <sup>a</sup>
2008	<b>0.720247</b>	<b>0.97395</b> (3.50) <sup>b</sup>
2009	0.602386	1.08375 (14.73) <sup>a</sup>
2010	0.598613	1.16825 (16.11) <sup>a</sup>

Table 6 compares the changing trend of C\_Score and Basu Coefficient according to years. C\_Score for firm *i* in year *t* is calculated by taking coefficients of DxR, DxRxSize, DxRxM/B, and DxRxLev in Table 3 into the following equation.

$$C\_Score_{i,t} = \lambda_0 + \lambda_1 Size_{i,t} + \lambda_2 M/B_{i,t} + \lambda_4 Lev_{i,t} \quad (2)$$

Then, we group them by year and get the average of C\_Score for each year which is presented in above table. Basu coefficients per year are calculated using Basu (1997) for each group.

Table 6 compares the changing trend of Basu coefficient and C\_Score according to years. From 2002 to 2005, both Basu coefficient and C\_Score are decreasing. After mandatory IFRS adoption in 2005, the level of accounting conservatism of European firms continues decrease, reaching the lowest level before 2008 (Basu coefficient = 0.56895, *t*=7.05; C\_Score = 0.4467). However, in 2008, the conservatism climbs to the high level (Basu coefficient = 0.9739, *t*=3.50; C\_Score = 0.7202), likely due to the global economic crisis. Firms are experiencing hard time during 2008 and it seems that they prefer conservative accounting to provide more credit on their current performance and ease the concern of debtholders. After the economic crisis, the level of accounting conservatism falls, but still higher than levels before 2008. Plotting the Basu coefficient and C\_Score in Table 6, we get Figure 1.

Figure 2: Conservatism Plot (pooled)

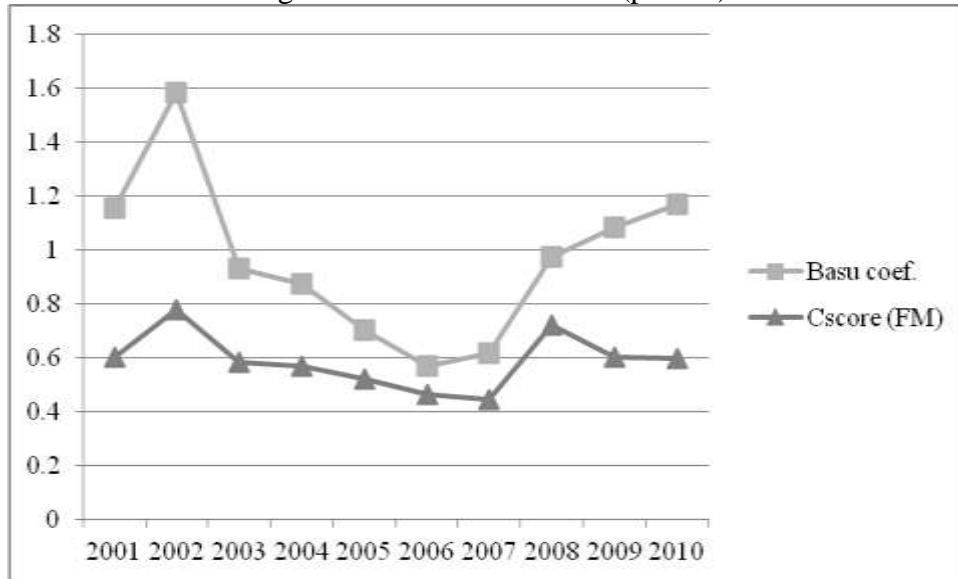


Figure 1 shows the changing of accounting conservatism which is represented by Basu coefficient and C\_Score across time. Overall, the trend of C\_Score is consistent with that of Basu coefficients. However, Basu coefficients are more volatile, ranging from 1.58 in year 2002 to 0.56 in year 2006. In summary, results in Table 6 and Figure 1 indicate that the accounting conservatism decreases after IFRS adoption, supporting hypothesis 1b.

Furthermore, using the coefficients in Table 7, we plot the good news versus bad news across year. The result is shown in Figure 2.

Table 7: Coefficients of Basu (1997) model across year (pooled)

<b>Year</b>	<b><math>\beta_2</math> (Good News)</b>	<b><math>\beta_3</math> (Difference)</b>	<b><math>\beta_2 + \beta_3</math> (Bad News)</b>
2001	-0.013 (-0.02)	1.15406 (11.68) <sup>a</sup>	1.14106
2002	-0.164 (-3.99) <sup>a</sup>	1.58523 (8.02) <sup>a</sup>	1.42123
2003	0.015 (2.74) <sup>a</sup>	0.93303 (14.67) <sup>a</sup>	0.94802
2004	0.011 (4.94) <sup>a</sup>	0.87609 (8.10) <sup>a</sup>	0.88709
2005	0.126 (3.78) <sup>a</sup>	0.69996 (3.78) <sup>b</sup>	0.82596
2006	0.197 (1.76) <sup>c</sup>	0.56895 (7.05) <sup>a</sup>	0.76595
2007	-0.028 (-0.81)	0.61411 (6.57) <sup>a</sup>	0.58611
2008	0.002 (0.01)	0.97395 (3.50) <sup>b</sup>	0.97595
2009	-0.003 (-0.17)	1.08375 (14.73) <sup>a</sup>	1.08075
2010	0.003 (0.13)	1.16825 (16.11) <sup>a</sup>	1.17125

Table 7 shows the coefficients of R and DxR in Basu (1997) model from 2001 to 2010.

$$\text{Basu (1997) model: } X_{i,t}/P_{i,t-1} = \beta_0 + \beta_1 D_{i,t} + \beta_2 R_{i,t} + \beta_3 D_{i,t} R_{i,t} + \varepsilon_{i,t}$$

X is earnings per share; P is year-end stock price per share. X/P ratio here is calculated as earnings per share (Worldscope item #05201) divided by price (Worldscope item #05001). Return is the return on each firm from 9 months before fiscal year-end to three months after fiscal year-end, including dividend paid and adjusted for stock dividends and capital contributions (Datastream); D is a dummy variable which equals 1 if R is negative and 0 elsewhere.

Figure 3: Good news versus Bad news Plot (pooled)

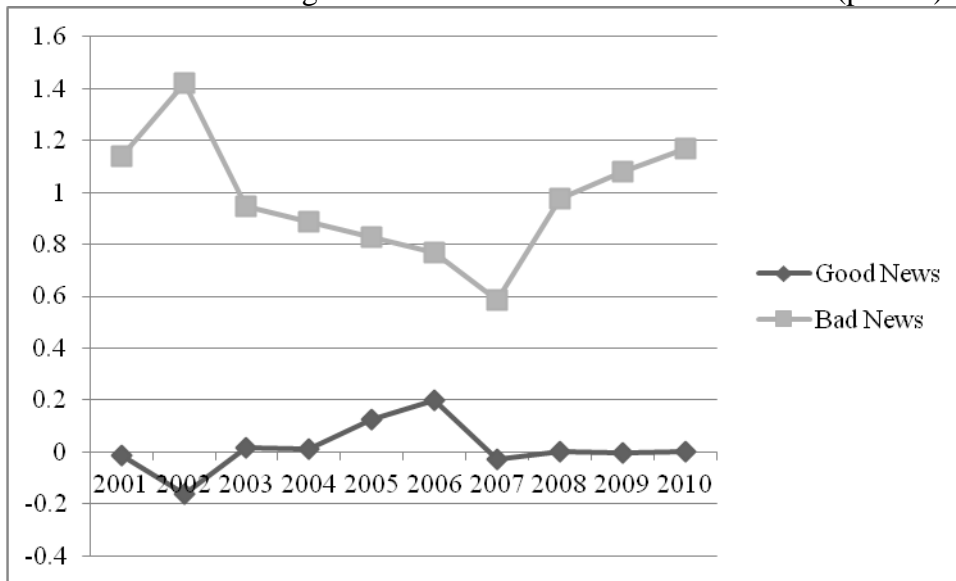


Figure 2 shows the change of good news and bad news from 2001 to 2010. Good news is represented by the coefficient of R, which is  $\beta_2$  in the Basu (1997) model. Bad news is the sum of coefficients of R and DxR, which is the sum of  $\beta_2$  and  $\beta_3$ . General, the good news and bad news present an opposite trend. This indicates that if there is an increase in the earnings reflecting good news, there will be a corresponding decrease in the earnings reflecting bad news. This result is consistent with that in Basu (1997) who plot the good news against bad news from 1964 to 1989. From 2001 to 2010, there is a big difference between the coefficient on good news and bad news. However, after mandatory IFRS adoption, the difference seems to be reduced. Nevertheless, the difference enlarges again after 2008. The opposite trend between good news and bad news become vague. This might because of the insignificant coefficients of R in Table 7.

In addition, we compare the Basu coefficient for three subsamples: early, on-time, and late IFRS adopters. Table 8 shows the Basu coefficients for each group across year.

Table 8: Basu coefficients for Early, On-time, and Late IFRS adopters

<u>Year</u>	<u>Early</u>	<u>On-time</u>	<u>Late</u>
2001	0.7324 (4.15) <sup>a</sup>	0.5855 (6.73) <sup>a</sup>	0.2538 (4.83) <sup>a</sup>
2002	3.6944 (3.76) <sup>b</sup>	1.0831 (7.85) <sup>a</sup>	0.1399 (1.03)
2003	0.8010 (4.11) <sup>a</sup>	0.9883 (11.19) <sup>a</sup>	0.9168 (9.99) <sup>a</sup>
2004	2.888 (3.82) <sup>b</sup>	0.7389 (7.46) <sup>a</sup>	0.5859 (3.12) <sup>b</sup>
2005	1.1994 (6.56) <sup>a</sup>	0.6364 (4.81) <sup>a</sup>	0.0429 (0.75)
2006	0.3995 (1.66)	1.0366 (9.30) <sup>a</sup>	0.1309 (2.24) <sup>d</sup>
2007	0.3609 (2.78) <sup>c</sup>	0.9149 (15.53) <sup>a</sup>	0.1813 (0.6)
2008	0.8479 (1.07)	1.3009 (1.47)	0.2288 (1.74)
2009	1.5007 (6.55) <sup>a</sup>	1.2778 (12.59) <sup>a</sup>	0.5290 (5.27) <sup>a</sup>
2010	0.4292 (1.47)	2.1042 (15.91) <sup>a</sup>	0.0107 (0.14)

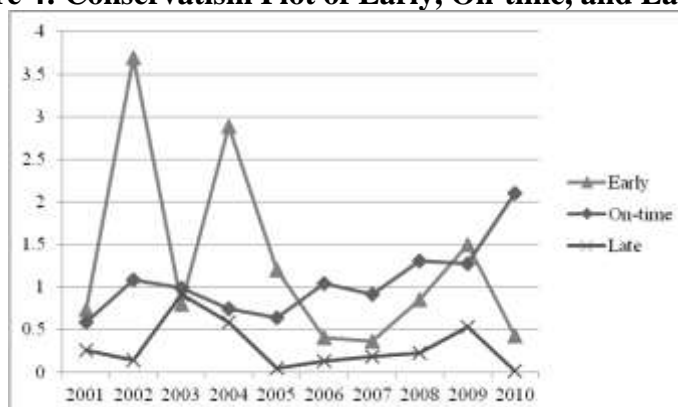
Table 8 shows the coefficient of D<sub>x</sub>R in Basu (1997) model from 2001 to 2010.

Basu (1997) model:  $X_{i,t}/P_{i,t-1} = \beta_0 + \beta_1 D_{i,t} + \beta_2 R_{i,t} + \beta_3 D_{i,t} R_{i,t} + \varepsilon_{i,t}$

X is earnings per share; P is year-end stock price per share. X/P ratio here is calculated as earnings per share (Worldscope item #05201) divided by price (Worldscope item #05001). Return is the return on each firm from 9 months before fiscal year-end to three months after fiscal year-end, including dividend paid and adjusted for stock dividends and capital contributions (Datastream); D is a dummy variable which equals 1 if R is negative and 0 elsewhere.

Figure 3 shows the conservatism plot measured by Basu coefficient of early, on-time, and late IFRS adopters. The level of accounting conservatism for early IFRS adopters changes sharply before 2005, from 0.7324 in 2001 to 3.6944 in 2002, then, back to 0.8010 in 2003. The level of accounting conservatism of on-time IFRS adopters remains in a relatively low level and fluctuate between 0.5 to 1.5. Late IFRS adopters have the lowest the level of accounting conservatism among three groups.

**Figure 4: Conservatism Plot of Early, On-time, and Late IFRS adopters**



## 7.2 Accounting conservatism and Information asymmetry

Table 9: Mean Coefficients from Estimation Regression of Equation (4) and (5)  
(Dependent Variable is calculated by extracting data from Worldscope)

	<u>Equation (4)</u>	<u>Equation (5)</u>
Intercept	0.057 (2.08) <sup>c</sup>	-0.181 (0.19)
D	0.143 (1.97)	-1.418 (-3.69) <sup>a</sup>
R	0.259 (4.31) <sup>b</sup>	0.104 (1.63) <sup>d</sup>
D x R	0.503 (6.56) <sup>a</sup>	0.752 (1.11)
B/A	-0.015 (-1.74)	-0.472 (-0.95)
B/A x D	-0.056 (-0.74)	1.036 (1.92) <sup>c</sup>
B/A x R	0.211 (2.34) <sup>c</sup>	0.423 (7.05) <sup>a</sup>
B/A x D x R	<b>0.397</b> (9.45) <sup>a</sup>	<b>0.886</b> (8.32) <sup>a</sup>
IFRS		-0.139 (-1.76)
IFRS x D		1.556 (4.33) <sup>a</sup>
IFRS x R		-0.821 (-2.82) <sup>c</sup>
IFRS x D x R		0.661 (1.12)
IFRS x B/A		0.473 (1.38) <sup>d</sup>
IFRS x B/A x D		-0.725 (-1.40)
IFRS x B/A x R		-0.403 (-1.96) <sup>d</sup>
IFRS x B/A x D x R		<b>-0.840</b> (-5.21) <sup>a</sup>

Table 7 shows mean coefficients from annual Fama-Macbeth regressions of the following model, on a sample of 6,665 firm-years from 2001 to 2010.

$$\begin{aligned}
 X_{i,t}/P_{i,t-1} = & \\
 & \beta_0 + \beta_1 D_{i,t} + \beta_2 R_{i,t} + \beta_3 D_{i,t} R_{i,t} + \beta_4 Bid/Ask_{i,t} + \beta_5 Bid/Ask_{i,t} D_{i,t} \\
 & + \beta_6 Bid/Ask_{i,t} R_{i,t} + \beta_7 Bid/Ask_{i,t} D_{i,t} R_{i,t} + \varepsilon_{i,t}
 \end{aligned} \tag{4}$$

$$\begin{aligned}
 X_{i,t}/P_{i,t-1} = & \beta_0 + \beta_1 D_{i,t} + \beta_2 R_{i,t} + \beta_3 D_{i,t} R_{i,t} + \beta_4 Bid/Ask_{i,t} \\
 & + \beta_5 Bid/Ask_{i,t} D_{i,t} \\
 & + \beta_6 Bid/Ask_{i,t} R_{i,t} + \beta_7 Bid/Ask_{i,t} D_{i,t} R_{i,t} + \beta_8 IFRS_{i,t} + \beta_9 IFRS_{i,t} D_{i,t} + \\
 & \beta_{10} IFRS_{i,t} R_{i,t} + \beta_{11} IFRS_{i,t} D_{i,t} R_{i,t} + \beta_{12} IFRS_{i,t} Bid/Ask_{i,t} + \\
 & \beta_{13} IFRS_{i,t} Bid/Ask_{i,t} D_{i,t} + \beta_{14} IFRS_{i,t} Bid/Ask_{i,t} R_{i,t} + \\
 & \beta_{15} IFRS_{i,t} Bid/Ask_{i,t} D_{i,t} R_{i,t} + \varepsilon_{i,t}
 \end{aligned} \tag{5}$$

Bid-ask spread is the average of the daily spread as the difference between bid price and ask price for that firm-year and, then, scaled by the midpoint of the spread. Other variables are same as before.

Table 7 shows mean coefficients from estimation regression of Equation (4) and (5). The results show that the relationship between accounting conservatism and information asymmetry is significantly positive, consistent with LaFond and Watts (2008). The coefficient of IFRSxB/AxDxR is negative (-0.840), while the coefficient of B/AxDxR is positive (0.886). This result indicates that the adoption of IFRS will weaken the relationship between information asymmetry and conservatism. This means people might turn to other information

sources to make up for the loss of accounting credibility, threatening the role of accounting as an information source. Therefore, blindly lowering the level of accounting conservatism might not weaken the role of accounting. Consistent with Basu (1997), the coefficients of R and DxR are positive. However, the coefficient of DxR in Equation (5) is not significant. It is probably because other interactive variables with DxR soak up the effect of DxR.

### 7.3 Accounting conservatism and Information Environment

Table 10: Mean Coefficients from Estimation Regression of Equation (6)  
(Dependent Variable is calculated by extracting data from IBES)

Indep. Variable	Forecast Error		Number of Analysts	
	Coeff.	t-stat	Coeff.	t-stat
Intercept	0.923	(5.11) <sup>a</sup>	-2.134	(-10.93) <sup>a</sup>
C_Score	<b>0.064</b>	(1.22)	<b>1.910</b>	(9.87) <sup>a</sup>
Forecast Horizon	0.134	(12.78) <sup>a</sup>	0.036	(8.39) <sup>a</sup>
Earnings Surprise	0.438	(3.21) <sup>b</sup>	1.352	(1.68) <sup>d</sup>
Size	-0.197	(-9.02) <sup>a</sup>	5.812	(20.43) <sup>a</sup>
Return	-0.516	(-4.55) <sup>a</sup>	-5.933	(-7.88) <sup>a</sup>

Table 8 shows mean coefficients from OLS regressions of the following model, on a sample of 9,237 firm-years from 2001 to 2010. The data used to calculate C\_Score is extracted from Worldscope and Datastream. Other data for analysts' information environment is from IBES.

$$IE_{i,t} = \gamma_0 + \gamma_1 C\_Score_{i,t} + \gamma_2 Forecast\ Horizon_{i,t} + \gamma_3 Earnings\ Surprise_{i,t} + \gamma_4 Size_{i,t} + \gamma_5 Return_{i,t} + \varepsilon_{i,t}$$

(6)

$IE_{i,t}$  is either forecast error or analyst following. The definition of these variables follows Horton and Serafeim (2010). Forecast error is the absolute error divided by the closing stock price of the previous year. Analyst following is the natural log of the number of analysts forecasting earnings per share for a firm. Forecast horizon, earnings surprise, size, and return are control variables that might affect the analyst variables. Forecast horizon is defined as the natural log of the number of days between the forecast's issue date and the earnings announcement date. Earnings surprise is defined as the change in earnings per share between two years divided by the closing stock price of the previous year. Size is the natural log of market value of equity. Return is the return on each firm from 9 months before fiscal year-end to three months after fiscal year-end, including dividend paid and adjusted for stock dividends and capital contributions.

Table 8 shows mean coefficients from estimation regression of Equation (6). The relationship between C\_Score and forecast error is insignificant, even though they are positive. This result indicates that there is only negligible effect of lowering accounting conservatism in order to increase forecast accuracy and information environment, supporting the argument that trying to reduce information asymmetry by decreasing the level of accounting conservatism might not be achieved, because it is information asymmetry leads to accounting conservatism. The relationship between C\_Score and the number of analysts following is

significantly positive ( $C\_Score = 1.910$ ,  $t=9.87$ ), suggesting that the higher level of accounting conservatism, the more analysts following. This result supports the argument that conservative accounting can provide hard information on firms' current performance for uninformed investors and also serve as benchmark for other soft information, such as management. Therefore, firms with higher level of accounting conservatism attract more analysts, because analysts believe their information is more credible. Consequently, even though accounting cannot solve the problem of reducing information asymmetry by providing unverifiable information, conservative accounting increases information environment by providing comparatively credible information.

The rest are control variables. The coefficients of forecast horizon are significantly positive for both forecast error and the number of analyst following, consist with argument that the longer the time between forecast and actual announcement, the higher forecast error and more analysts following. Earnings surprise is positively correlated with forecast error and the number of analysts. Size is negatively related with forecast error, but positively related with the number of analysts, consist with the idea that larger firms have better information environments. Return is negatively associated with forecast error and the number of analyst followings. All these four control variables are consistent with results in prior study (e.g., Horton and Serafeim, 2010).

## **8. ROBUSTNESS CHECK**

According to Leuz et al., (2003), we divide our sample into three clusters. Cluster 1 consists of UK, which is a common-law country. Cluster 2 consists of Austria, Germany, Belgium, Netherlands, Denmark, France, Finland, Sweden and Ireland, which are all code-law countries except Ireland. Cluster 3 consists of Greece, Portugal, Italy and Spain, which are all code-law countries. Then, we run the Basu (1997) model for each cluster and plot them across years. We find that Cluster 1 has the lowest Basu coefficient, which means that Cluster 1 has the lowest the level of accounting conservatism. Also, the results show that the level of accounting conservatism doesn't change that much for Cluster1 and Cluster 3. However, for Cluster 2, the average level of accounting conservatism decreases after mandatory IFRS adoption in 2005.

Following Ball et al., (2000), we also divide our sample into common-law countries and code-law countries. The common-law countries consist of UK and Ireland, while the code-law countries consist of Austria, Belgium, Germany, Denmark, Spain, Finland, France, Greece, Italy, Netherlands, Portugal and Sweden. The results show that there is almost no change of the level of accounting conservatism towards common-law countries. However, there is a slightly decrease in the code-law countries.

## **9. CONCLUSIONS**

This study investigates how accounting conservatism changes after mandatory IFRS adoption. Accounting conservatism will decrease if investors expect higher financial reporting quality after mandatory IFRS adoption, more financial reporting transparency, and lower information asymmetry. However, accounting conservatism will increase if investors expect accounting numbers to be less verifiable and turn to other information sources. In order to maintain the financial reporting as a role of information source, firms will tend to enhance the level of accounting conservatism and, thus, increasing credibility of financial reports. The empirical findings of this study shows that the level of accounting conservatism decreases

after mandatory IFRS adoption and reached the lowest point before 2008. However, in 2008, accounting conservatism sharply increased, likely due to the global economic crisis. This supports the idea that the enhancement of accounting conservatism is an efficient mechanism to increase information credibility, even though investors expect higher reporting quality after mandatory IFRS adoption.

Moreover, this study shows that information asymmetry is positively related to accounting conservatism, consistent with LaFond and Watts (2008), and the adoption of IFRS will weaken the relationship between them. People would turn to other information sources after the adoption of IFRS which is an allegedly principle-based accounting standard. This might be because IFRS lowers the level of accounting conservatism and, therefore, lower the credibility of accounting, threatening the role of accounting as an information source. Consequently, it is better to maintain accounting conservatism to some level instead of blindly lowering it (Ball, 2006; Watts, 2003; Basu and Waymire, 2010).

Finally, this study examines the relationship between accounting conservatism and information environment, since LaFond and Watts (2008) argue that the higher level of accounting conservatism can generate a more informed capital market. Consistent with their argument, this study shows that conservative accounting increases information environment by providing comparatively credible information, because there is a significant positive relationship between conservatism and analysts following. Moreover, empirical findings also support the implications in LaFond and Watts (2008) paper that there is only negligible effect when trying to reduce forecast error by lowering the level of accounting conservatism.

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## Economics

14:45-16:15, December 15, 2012 (Room 4)

**Session Chair:** *Prof. Zabihollah Rezaee*

**1713: Regulatory Reforms In The Aftermath Of The 2007-2009 Global Financial Crisis And Their Implications In Hong Kong**

*Zabihollah Rezaee*

*The University of Memphis*

*Danny Lo*

*Hong Kong Shue Yan University*

*Alexis Suen*

*Hong Kong Shue Yan University*

*Jacky Cheung*

*The Hong Kong Polytechnic University*

**1677: Export Orientation and Spillovers from FDI in Thailand: Evidence from Plant-level Analysis**

*Thanapol Srithanpong*

*Keio University*

**1735: Pollution Havens and Factor Endowments: the Case of Consumption-Generated Pollution**

*Bin Hu*

*Central University of Finance and Economics*

*Ross McKittrick*

*University of Guelph*

**1662: Effect of Planning Horizon on Repowering Decisions of Renewable Power Producers**

*Chenlu Lou*

*Iowa State University*

*K. Jo Min*

*Iowa State University*

**1689: Efficiency and Bid Rigging in Simultaneous Procurement Auctions under Oligopoly**

*Aaro Hazak*

*Tallinn University of Technology*

**1713**

**REGULATORY REFORMS IN THE AFTERMATH OF THE 2007-2009  
GLOBAL FINANCIAL CRISIS AND THEIR IMPLICATIONS IN HONG  
KONG**

**Zabihollah Rezaee<sup>a</sup>, Danny Lo<sup>b</sup>, Alexis Suen<sup>c</sup>, Jacky Cheung<sup>d</sup>**

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**ABSTRACT**

The financial crisis initiated in 2007 in the United States affected the entire world economy and financial markets for the past several years. The global financial crisis has been caused by many factors and requires comprehensive and international regulatory responses and effective coordinated actions by governments, policy-makers central banks, regulators and the business community worldwide. This presentation addresses the global financial crisis and regulatory responses to prevent its further occurrences by: (1) discussing the overriding causes and effects of the global financial crisis; (2) presenting global initiatives taken in response to the financial crisis including recent summit report of the G-20; (3) presenting the Dodd-Frank Act of 2010, the new financial regulatory reforms in the United States, intended to provide protection for investors and consumers; (4) describing the Basel III rules setting higher capital requirements for global banks in order to protect them from excessive risk; and (5) examining the relevance and implications of these global regulatory reforms to banks and businesses in Hong Kong. Taken together, these regulatory responses aimed in reforming and strengthening the resilience of financial systems, reducing broader and systemic effect of bank failure, protecting investors and consumers, improving banking systems and preventing further occurrences of financial crisis

Keywords: Financial crisis, global regulatory reforms, banks and businesses in Hong Kong

JEL classification: G32, G34, G38, H 87, M52

1677

**Export Orientation and Spillovers from FDI in Thailand:  
Evidence from Plant-level Analysis**

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This version: October 2012

**ABSTRACT**

This paper examines export orientation and export spillovers from Foreign Direct Investment (FDI) in Thai manufacturing, using cross-sectional data from the 2007 Industrial Census. Spillovers are examined at the 2-digit and 4-digit industry levels by spillover variables, foreign employment share and foreign output share. The research is based on Heckman's selection model by analyzing various aspects of the data. We find that foreign presence has significant impacts on the export performance of domestic firms and such impacts are heterogeneous. On average, FDI generates positive export spillovers to domestic plants in both export decision and export intensity. However, different plants, due to their different absorptive capacity, are affected differently which can be determined by their characteristics such as labor productivity, plant scale, age, and technology gap. The results suggest that both foreign presence and characteristics of plants strongly affect the likelihood for domestic plants to export and their export behavior, but foreign impacts are also conditioned by size, location and form of organization of domestic plants. Caution is taken regarding estimation based on only one spillover variable and one industry level since results can vary according to differences in research design, and the nature and quality of the data. Careful interpretation of estimated results should always be made for possible policy implications.

JEL classification: F21, F23, O12

Keywords: FDI, Export participation, Export spillovers, Thailand

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\*2<sup>nd</sup> year PhD student. I am grateful to Prof. Masahiro Endoh for his guidance and support, Prof. Hitoshi Hayami and Keio Economic Observatory (KEO) for providing the primary data set as well as members of the International Trade and Investment seminar at Keio University, Japan. The opinions expressed and errors in this paper are the sole responsibility of the author.

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## 1. INTRODUCTION

Over the past two decades, foreign direct investment (FDI) has become one of the major engines in Thailand for increasing the integration of the Thai economy into the global economy. Both directly and indirectly, FDI yields a number of benefits which help promote and support economic development and fundamentals in Thailand. Multinational Enterprises/Corporations (MNEs/MNCs) have the potential to generate considerable positive impacts on development in host economies. Hence, it is likely that domestic firms can become more export-oriented in response to the presence of multinationals, i.e. when there is an “export spillover” to domestic firms. Besides, it is well-known that one of the channels for export spillovers is by domestically-owned firms learning from export activities of foreign affiliates in the host country via information externalities (Aitken et al., 1997; Greenaway et al., 2004). Thus, MNCs indirectly help and guide other firms, especially domestically-owned firms, in finding a way to improve their products for export and encourage domestic firms to consider joining export activities and participating in foreign markets.

In addition, MNC affiliates can also increase the degree of competition and ultimately force domestic firms to become more productive and allow them to start exporting. Increased competition in the domestic market may be responsible for strengthening the demonstration effect, as it also creates an incentive to engage in more efficient production techniques, therefore assisting domestic firms in entering foreign markets. For this reason, apart from productivity and wage spillovers, the indirect effect of FDI from multinational firms to domestically-owned firms on “export orientation” is generally referred to “export spillover”.

As stated in Jongwanich and Kohpaiboon (2009)<sup>58</sup>, the Thai manufacturing sector is one of the outstanding examples for this issue at least for three reasons. First, Thailand has kept a ‘market-friendly’ attitude towards foreign investors in its manufacturing sector from the early 1960s. Thus, multinational corporations began their involvement in Thai manufacturing since Thailand’s earliest phases of industrialization and have continued to play their role in Thai manufacturing for nearly the past four decades. Second, due to the characteristics of MNC affiliates whose firms’ size are relatively large (as opposed to locally non-affiliated firms); we can expect that MNC affiliates are the dominant firms in Thai manufacturing. Third, Thai experience regarding industrialization appears to be one of the successful cases among developing economies as suggested by the fact that the Thai manufacturing sector is relatively broad based, compared to those of neighboring countries.

Furthermore, Thailand is the global major exporter in several manufactured goods such as processed foods (e.g. canned tuna, canned pineapple, and frozen shrimp), hard disc drives, electrical appliances, apparel, and so forth. Moreover, Thailand is also a good example where FDI has played an important part in shifting the country's main exports from resource-based products in the agricultural sector to labor-intensive products which employ more advanced technologies and imported raw materials in the production process. By and large, Thailand has consistently been referred to as an emerging economy which has been successful in pursuing export-led growth strategy.

Despite the importance of the issue of export performance and export spillovers from FDI in Thailand, up to the present, the topic has not been widely explored and relatively little is known about the features and factors that affect MNC’s export spillovers (Kohpaiboon, 2007).

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<sup>58</sup>This study is among the first study to systematically investigate export spillovers in Thai manufacturing.



Because the Thai manufacturing sector has received the majority of FDI inflows in recent years, this paper searches for evidence of export spillovers from FDI to domestic firms by examining in detail export spillovers in various aspects using a detailed plant-level dataset from the 2007 Industrial Census of Thailand.

This paper carefully examines the impacts of horizontal export spillovers from foreign firms on (1) the decision of domestic firms to export and (2) the export share of domestic firms which are conducted by means of Heckman's selection model. This study contributes to the existing literature in three ways. Firstly, in our econometric analysis, the impacts of foreign presence on the decision and intensity of domestic firms to export (export spillover variables) are examined at both the 2-digit and 4-digit ISIC industry levels and are observed by both foreign output share and foreign employment share by using Heckman's selection model with maximum likelihood estimator. Secondly, we meticulously examine the existence and strength of export spillovers under different conditions and characteristics of plants such as plant size, location, and form of economic organization and compare our results with both spillover variables in order to double-check the accuracy of estimated results. Thirdly, we consider the effects of foreign presence separately in important industries and explore if the spillover effects are concentrated in any particular industries. The results generally reveal that the presence of foreign firms in the Thai manufacturing sector has strong and positive effects on domestic manufacturing firms' decision to export and their export share.

The rest of this paper is organized as follows. Section 2 provides a brief summary of empirical studies on export spillovers. Section 3 contains analytical framework, econometric model and describes variables and the data used in the analysis. Next, empirical results and discussion are explained in section 4. Finally, section 5 concludes the estimated results and suggests possible policy implications.

## **2. EMPIRICAL STUDIES ON EXPORT SPILLOVERS FROM FDI**

Empirical studies of export spillovers from FDI are very important as governments in developing countries now realize the important role of export in the development process. Exports are usually considered to show a firm having enhanced productivity, since exporting firms must improve their production efficiency to incur higher trade barriers and confront the different consumer tastes and fierce competition of international markets. While the growth-enhancing role of export is widely recognized, why only some firms can export in a given industry remains a puzzle and the topic is still essential for empirical analysis (Bernard and Jensen, 2004; Wagner, 2007). Up until now, each of the studies on export spillovers from FDI incorporates at least one spillover channel, reflected by MNE employment (or output), exports, or technology into their search for export spillovers at the industry level using either cross-sectional or panel data. Many studies also take account of the influence of firm heterogeneity on the export decisions of domestic firms (Greenaway and Kneller, 2007).

The first study regarding the importance of export spillovers from MNEs to domestic firms is presented by Aitken et al. (1997) by using panel data on Mexican manufacturing plants from 1986-1990. They develop a simple model of the firm production decision by including two measures of MNE presence: a general measure of MNE output and a separate measure of MNE export activity and derive a reduced form for the probability a firm exports. Similarly, Kokko et al. (2001) use cross-sectional data for 1998 manufacturing firms in Uruguay to search for export spillovers. They find that entry of foreign firms in Uruguay enhances the probability that domestic firms will be involved in exporting activities.

In addition, Greenaway et al. (2004) explain an indirect channel for productivity spillovers from FDI generated through exports in the United Kingdom using firm-level panel data from 1992-1996. Their main objective is to investigate whether spillovers affect a firm's probability of exporting but extend the analysis to examining what affects a firm's export ratio (assuming that the firm decides to export), by explicitly considering three different channels for export spillovers. In addition to the information spillovers explored in Aitken et al. (1997), they try to introduce the idea of demonstration, imitation, and competition effect. In recent studies, Kneller and Pisu (2007) examine the impact of FDI-related horizontal and vertical linkages on export spillovers in the United Kingdom from 1992 to 1999. They utilize Heckman's selection model which involves two decisions: (i) whether to export or not and (ii) how much to export. They find that a domestic firm's decision to export is positively associated with the presence of foreign firms in the same industry. Furthermore, export-oriented foreign firms seem to be the main source of export spillover effects. The decision concerning how much to export (i.e. the export share) is influenced positively by foreign firms in downstream industries and also by those in the same industry that do not export.

Regarding Thai manufacturing, some notable studies are presented in Kohpaiboon (2008), Jongwanich and Kohpaiboon (2009), Cole et al. (2009) and Cole et al. (2010).<sup>59</sup> Specifically, these researches investigate the relationship among foreign presence and firm heterogeneity and a firm's decision to export, using the annual survey of Thai manufacturing firms or the industrial census data. In short, they find that entry sunk costs, the ownership structure of the firm and firm characteristics are important factors in predicting a firm's decision to participate in the export market, with foreign-owned firms having a higher probability of exporting than domestic firms.

### 3. EMPIRICAL MODEL AND DATA

#### 3.1 Analytical Framework: Econometric Models

Concerning benefits from exporting, entering a foreign market is costly and incurs considerable sunk costs to firms which must be written off whether the firm decides to export or not. Firms must obtain information on different consumer preferences, distribution channels, marketing, and so forth (Wagner, 2007; Greenaway and Kneller, 2007), and MNC presence is a crucial factor in influencing firms' export decision. By definition, MNCs have an international network and are familiar not only with their home countries but also other markets. Hence, they can benefit from their networked economies and knowledge of international market management, as well as distribution and servicing of their products (Greenaway et al., 2004). With these advantages, one would therefore expect that MNC affiliates would be in a better position to overcome fixed costs induced by the export process, thus having a higher chance to successfully export. In addition, MNC presence could indirectly promote locally non-affiliated firms to export. Existing studies have suggested that the presence of foreign firms can reduce domestic firms' export costs through knowledge spillovers such as learning by doing, research and development, human resource movement, training courses, technical assistance, and technology transfer.

In order to test for the export spillover effects arising from the presence of foreign firms in Thailand, we utilize an empirical model based on the one used by Aitken et al. (1997), Greenaway et al. (2004) and Kneller and Pisu (2007). The well-known Heckman's selection model allows one to test (i) whether or not the presence of foreign firms influences the

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<sup>59</sup> See also Greenaway & Kneller (2007) for a comprehensive literature review and Kohpaiboon (2006) for input on the decision to export and MNE export spillover in Thai manufacturing.

decision of domestic firms to export and (ii) whether or not the presence of foreign firms affects the export share of domestic firms. Factors included in each model are in line with previous theoretical and empirical literature. Our main focus is on the variables that capture export spillovers from foreign to domestic firms. We include all firm-level specific characteristics that are assumed to affect the export behavior of domestic firms. In terms of our Heckman's selection model, the full model consists of two equations as follows:

$$\text{Export Decision}_{ij} = f(\text{Capital Intensity}_{ij}, \text{Labor Productivity}_{ij}, \text{Size}_{ij}, \text{Labor Quality}_{ij}, \text{Average Wage}_{ij}, \text{Scale}_{ij}, \text{Age}_{ij}, \text{Concentration (HERF)}_{ij}, \text{Trade Policy (ERP)}_{ij}, \text{Technology Gap}_{ij}, \text{FDI Spillovers}_{ij}, \text{Control variables (X)}_{ij}, \varepsilon_{ij}) \quad (1)$$

$$\text{Export Intensity}_{ij} = g(\text{Capital Intensity}_{ij}, \text{Labor Productivity}_{ij}, \text{Size}_{ij}, \text{Labor Quality}_{ij}, \text{Average Wage}_{ij}, \text{Scale}_{ij}, \text{Age}_{ij}, \text{Concentration (HERF)}_{ij}, \text{Trade Policy (ERP)}_{ij}, \text{Technology Gap}_{ij}, \text{FDI Spillovers}_{ij}, \text{Control variables (X)}_{ij}, \mu_{ij}) \quad (2)$$

In both equations, we also include region dummies and 2-digit industry dummies to control for the unobserved region and industry effects. As a result, the linear version of Equation (1) and (2) is estimated after including appropriate dummy variables to account for unobserved effects.

Here,  $i$  indexes the plant and  $j$  indexes the sector or industry. *Export\_decision* ( $EX_{ij}$ ) is a dichotomous variable which takes the value of 1 if firm  $i$  in industry  $j$  exports and 0 otherwise. *Export\_intensity* ( $EXshare_{ij}$ ) is the share of firm's exports in industry  $j$ . As for error terms,  $\varepsilon_{ij}$  and  $\mu_{ij}$  are random variables that capture the effect of omitted variables. Equation (1) and (2) suggest that the decision to export and export intensity depend on certain characteristics of firms, industry and FDI linked spillovers. We investigate two aspects of export spillovers: the export participation decision and how much to export. This is known as a "two-stage decision process", as a firm firstly has to decide whether to export or not, and secondly the amount the firm should export (Kneller and Pisu, 2007). Additionally, in order to enter export markets, firms have to invest in sunk entry costs, thus not every firm decides to export. The export intensity is therefore restricted to the subset of firms that do export. As a result, for export spillovers, the Heckman selection model is used in order to avoid "sample selection bias" in the coefficients of our estimated results (Heckman, 1979).

The model written above involves a two-stage decision process. In the first stage, firms decide whether or not to export and in stage two, firms decide on the quantity to be exported. Accordingly, using simple OLS estimation in the present case is inappropriate as such estimation is likely to result in inconsistent and biased coefficient estimates. Therefore, it is highly appropriate to make use of Heckman's maximum likelihood estimator.<sup>60</sup> This method involves estimation of the probability of export in the first step, and the factors that affect the export share of the firm in the second step. The Wald test is used to test for the overall significance of the two-equation model and the likelihood-ratio test is used to validate the choice of the Heckman's selection model. Equation (1) is based on the Probit model whereas Equation (2) is based on the Tobit model. Thus, Heckman's sample selection model is used as the main methodology to test the export spillovers throughout this study. Statistical software STATA version 11 was used to compute all the statistical results in this paper.

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<sup>60</sup> The maximum likelihood estimation method uses a full maximum likelihood procedure to jointly estimate the inverse Mills ratio and the coefficients in the two equations (export decision and export intensity). This estimation technique is also widely used in recent studies of export spillovers.

### 3.2 Variable Construction and Data

In our econometric investigation into the effects of FDI on export decision and export intensity, we used the detailed data set at plant level from the 2007 Industrial Census of Thailand. This data set was collected by Thailand's National Statistical Office (NSO) which surveyed all establishments in the whole kingdom in 2006. The information is one of the most extensive plant-level data sets in Thailand. The original sample size consists of 73,931 observations, of which about 71,154 observations are domestic plants, and 2,777 observations are foreign plants.<sup>61</sup> The census covers 34,625 firms, belonging to 127 4-digit industries of the International Standard Industrial Classification of All Economic Activities (ISIC Rev3.0). Of these, enumerated observations are 62,623 (plants which had still existed by the time the census was conducted). Due to missing information on some key variables, the census was cleaned up by first deleting plants which had not responded to one or more the key questions and which had provided impossible information such as negative value added and inputs used and total employment being less than one. As described in more detail (Ramstetter, 2004 and Kohpaiboon, 2008), there are some duplicated records in both the data from manufacturing surveys and the Industrial Census, presumably because plants belonging to the same firm answered the questionnaire using the same records. The procedure followed in dealing with this problem was to treat the records that report the same value of the seven key variables of interest in this study as one record.<sup>62</sup> Industries that are either to serve niches in the domestic market in the service sector or explicitly preserved for local enterprises are excluded.<sup>63</sup> As a result, the final dataset contains 49,432 plants (1,931 foreign-owned plants and 47,501 domestic-owned plants) in 115 industries at the 4-digit ISIC industry level and 22 industries at the 2-digit ISIC industry level.

The data set contains information of individual plants in the manufacturing sector on employment (skilled and unskilled workers), wages and salaries, input materials used, labor inputs (men and women), fixed assets, ownership, number of days worked, years of operation, detailed receipts, and cost of establishments etc. The explanatory variables adopted in the econometric investigation basically follow the theoretical and empirical literature reviewed in section 2. However, in this study, two different spillover variables are used with regard to the presence of foreign firms. The explanation of these important explanatory variables is described as follows.

*KI* is capital intensity, measured as the ratio of fixed assets to total number of employees in each plant, indicates average physical capital stock per worker. *VAL* is labor productivity or value added per worker of a plant, defined as the ratio of total sales net change in inventories of each plant to total number of workers in that plant. *L* is labor inputs employed at each plant. The Herfindahl (*HERF*) index of industry concentration is constructed using the information on total sales of the industrial census at the 4-digit ISIC classification. Following Kohpaiboon (2008), for measuring labor quality, the supervisory and management workers are defined as employees not directly engaged in production or other related activities. The actual number of supervisors and management workers are not available in the census; therefore, the number of non-production workers reported would also include clerical and administrative staff. *Scale* is plant scale, measured as a plant's total sales over the average sales in the sector at 4 digit industry level. *Age* is the period of firm's operating years.

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<sup>61</sup>In this study, if the foreign investment in a firm is reported, we consider the firm as foreign firm and if there is no report of foreign equity participation, we consider the firm to be domestic firm.

<sup>62</sup> See details in Ramstetter (2004) footnote 5. In addition, there are the near-duplicate records. A careful treatment to maximize the coverage of the samples is used as described in more detail in Ramstetter (2004).

<sup>63</sup> See details in Kohpaiboon and Ramstetter (2008)

*AvrRemu* is shortened for average remunerations or wages in a plant. *TechGap* is the technology gap for each plant as the percentage difference between firms' labor productivity and that of the average of foreign plants in the same industry. Concerning the data on Effective Rate of Protection (*ERP*), all estimates are obtained from Kohpaiboon (2009).<sup>64</sup>

Other control variables (*X*) include; 1) Capacity utilization, which measures plant utilization of overall inputs, 2) BOI (Board of Investment) status (equal to 1 if plants are investment-promoted by BOI of Thailand and zero otherwise), 3) Municipal area dummy (equal to 1 if plants are in a municipal area), 4) Central area dummy (equal to 1 if plants are in the central area - Bangkok and the central region), 5) Nationality of FDI- Japanese, Chinese, US. 6) Government dummy (equal to 1 if plants are state-owned and zero if they are private enterprises). For plant characteristics, control variables include product development dummy (equal to 1 if product development is reported, and zero otherwise), improved production technology dummy (equal to 1 if improved production is reported, and zero otherwise), form of economic organization dummy (equal to 1 if plants are Head Branch type and zero if they are Single Unit type). For our FDI spillover variable, Horizontal FDI is measured as follows:

**EFOR4** = Proxy for foreign presence, defined as the ratio of the *employment* of foreign firms to total employment in each subsector at the *4-digit* ISIC (narrowly defined industry level)

**YFOR4** = Proxy for foreign presence, defined as the ratio of the *output* of foreign firms to total output in each subsector at the *4-digit* ISIC

**EFOR2** = Proxy for foreign presence, defined as the ratio of the *employment* of foreign firms to total employment in each subsector at the *2-digit* ISIC (broadly defined industry level)

**YFOR2** = Proxy for foreign presence, defined as the ratio of the *output* of foreign firms to total output in each subsector at the *2-digit* ISIC

A statistically significant and positive coefficient on EFOR or YFOR suggests that domestic plants benefit from export spillover effects from plants with foreign ownership in the same industry. The more enriched data of the Industrial Census is appropriate for this paper since we analyze export spillovers from FDI in various aspects. As indicated before, the cross-sectional data is used and heteroskedasticity is often present. For this reason, statistical diagnostic tests are necessary to determine the appropriate statistical models and estimation techniques to avoid misleading econometric results.<sup>65</sup> Furthermore, the statistical summary of the key variables for our analysis of export spillovers is shown in Table 1 and the industry details of Thai manufacturing and its Code of Industry can be found in the appendix.

=== Table 1 here ===

Finally, when a cross-sectional econometric procedure is applied, our study may suffer from causality problem. Panel data would be able to solve this problem. However, as suggested and indicated in Kohpaiboon (2009), in the case of Thai FDI panel analysis of technology spillovers, unobserved effects are relatively unimportant in the data. Additionally, since panel analysis has already been explored for the Thai dataset, our estimation here would better contribute to the body of knowledge on the subject by applying other methods, with a newer dataset and a focus on different aspects and levels of the analysis. This would be the focus and main value of our paper.

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<sup>64</sup> See the source of the data and the method used to calculate ERP in detail in Kohpaiboon (2009)

<sup>65</sup> Statistical diagnostic tests are not included in the paper but can be shown upon request.

#### 4. EMPIRICAL RESULTS

From econometric models described in the previous section, the estimated results of horizontal linkages and export spillover effects from equation (1) and (2) by Heckman's selection model are summarized in Table 2. Specifically, Table 2 shows estimated results for the decision of domestic firms to export; export decision (Equation 1), and the export share of domestic firms; export intensity (Equation 2). For equation 1, the benchmark results are from the Probit model, however we also compare the results with the Logit model to observe whether the results are consistent in terms of signs of the coefficients and magnitude.<sup>66</sup> For equation 2, the benchmark results are from Heckman maximum likelihood estimator but we also compare the results with Heckman two-step estimator to observe whether the estimation yields the same result in terms of signs of the coefficients and magnitude.<sup>67</sup> For this reason, even though the Heckman selection model with maximum likelihood estimator is our preferred estimation method, we also perform additional estimation techniques for both equation 1 and 2 to cross-check and compare the sensitivity of our results.

=== Table 2 here ===

As can be seen, the export decision of domestic firms is strongly and positively associated with the presence of foreign firms in the same sector at both the 2-digit and 4-digit industry levels, especially in the measure of YFOR when not including other control variables. This implies that domestic firms are more likely to enter the export market if they are in a sector where the presence of foreign firms is strong. Moreover, the export share of domestic firms is greater in sectors where foreign firms are prevalent. However, when other control variables are included, the positive horizontal effect in the export decision is weakened and we only observe weak evidence of positive horizontal export spillovers by YFOR4. For the export intensity when including other control variables, we can still observe the strong and positive horizontal export spillovers by both EFOR4 and YFOR4. The estimated results show that, in several ways, domestic firms can gain access to new, improved, or less costly intermediate inputs produced by foreign firms. Among all control variables, it should be noted that plants with BOI-promoted status, private plants, plants in the central region status, plants with Chinese nationality, and plants which report product improvement are more likely to export (positive relationship with export decision). Moreover, once plants decide to export, only plants with high capacity utilization tend to export more and plants in the central region and state-owned tend to export less in volume. Besides, other plant-level characteristics including plant scale (by average total sales compared to the industry sales), size (by the total employment), average wage (by average wages per worker), age (by years of operation), technology gap, and industry level characteristic such as industry concentration (HERF) in Table 2 suggest that relatively large domestic firms in the total workforce with less scale in total sales, relatively new and efficient plants, and plants with a higher level of industry concentration environment are more likely to be able to compete successfully in the export market. Our results here can be considered robust because we also confirmed the model by other techniques and results only change in magnitude, not coefficient sign.

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<sup>66</sup> The estimated results from the Logit Model are not reported to save space, but are available upon request. It is also a common practice to compare estimated results from Logit and Probit model.

<sup>67</sup> Likewise, the estimated results from the two-step method are not reported to here but are available upon request. It is well-known that sometimes the two-step method is less efficient than the maximum likelihood method (see details in Greene, 2003)

#### 4.1 Size and Location and Export Spillovers

==== Table 3 here ====

In order to examine the role of plant size and location, the data was divided into four subsamples: (1) small plants, (2) large plants (large – samples of large plants with total employment more than 50 employees), (3) plants which are in the central region, and (4) plants which are not in the central region.<sup>68</sup> Linear versions of Equations (1) and (2) were re-estimated by making use of each of the four subsamples. Based on the sample size, we can clearly see that a larger proportion of Thai manufacturing plants can be categorized as small plants and that almost half of the plants are located in the central region. The estimated results are summarized in Table 3. The impact of horizontal linkages between foreign and domestic firms on the decision to export and export share is positive and significant for almost all groups, especially large plants and plants in the central region. This suggests that generally the presence of foreign firms encourages domestic firms in the same sector to (a) enter the export market and (b) increase their export volume. These findings are consistent with previous general conclusions from the existing literature. Based on the results presented in Table 3, it can be argued that the impact of export spillovers on the decision to export and the export share varies with the size and location of the plant for Thai manufacturing, especially among large plants (plants with more workers) and plants in the central region. For small plants, we observe that export spillovers from FDI only affect the decision to export but do not affect the export intensity. Overall, from both Table 2 and Table 3, caution should be taken regarding both export spillover variables (EFOR2, EFOR4, YFOR2, YFOR4) that it is necessary to cross-check the estimated results to confirm if the results are sensitive to different measurements of FDI or not. Moreover, apart from FDI spillover effects to domestic firms through horizontal and vertical linkages, it is interesting to notice that export spillovers can also occur in various industry levels in view of horizontal spillovers.

#### 4.2 Form of Organization and Export Spillovers

==== Table 4 here ====

The purpose of this section is to examine whether the impact of export spillovers to domestic plants varies with the form of organization. This issue was empirically examined by subdividing the sample into four groups (1) plants with high production technology, (2) plants that are private and are not state-owned, (3) plants which are Head Branch type, and (4) plants which are Single Unit type. The empirical model was re-estimated for each of the four subsamples. The estimated results are summarized in Table 4. All in all, the results show that the impact of horizontal linkages on the decision to export and export share is positive for both plants that are Head branch type and Single Unit type. However, the effect is highly significant for private plants. This result is unsurprising since private firms are better organized and hence have better access to information on export markets, making them better equipped to adapt to and imitate the products of foreign firms in the same sector. This suggests that private firms have better access to good quality intermediate inputs, which may help them reduce production costs. As a result, private firms are able to increase their export share. In Thai case, the form of legal organization (private or state-owned) matters a lot but we do not observe the difference in the effect for export spillovers with different form of

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<sup>68</sup> Originally, there are 5 regions (Bangkok, Vicinity and Central, Northern, Northeastern, and Southern region) in the census data. For the analysis, we create the central region dummy which takes value of 1 if plants are in Bangkok, Vicinity and Central region and zero otherwise).

economic organization (Head Branch type and Single Unit type) . More importantly, we can learn that the technology gap between foreign and domestic firms, as an absorptive capacity, plays an important role in the export orientation of domestic firms. Surprisingly, although it has been noted in many previous studies for the Thai case that trade policy (reflected by ERP) is one of the most influential factors in the export decision, we find almost no evidence for the role of ERP in this study. In contrast, firm heterogeneity (reflected by other control variables include in the estimation) plays a principal role in the export decision and export intensity.

#### **4.3 Export Spillovers in Selected Industries**

==== Table 5 here ====

In this section, we analyze deeper and look carefully in some industries, From Table 5, we find strong evidence for export spillovers via horizontal linkages by both EFOR and YFOR. Plants that are in the following industries are affected by positive export spillovers in both export decision and export intensity, namely; textiles, leather and footwear, rubber and plastics, non-metallic products, and furniture. For the food products industry, we only observe export spillovers in the export decision but not in export intensity. All in all, we find strong evidence for export spillovers in most industries and this suggests that foreign presence plays an important role in whether a firm decides to export and how much to export. In an industry with positive export spillovers and strong foreign ownership, it is likely that plants become more export-oriented and export more in volume once they initially decide to enter the export market. Once again, a warning should be made not to base the analysis on only one spillover variable and one industry level since results can vary due to differences in research design and the quality of data.

### **5. CONCLUSIONS AND POLICY IMPLICATIONS**

This paper aims to study the factors that influence a firm's export decision and export intensity and export spillover effects from FDI by using a plant-level dataset collected by the National Statistical Office (NSO) of Thailand in 2007. The main study concentrates on the roles of MNEs in export. Precisely, this paper contributes to the existing literature that deals with the impact of spillovers arising from FDI-generated linkages between domestic and foreign firms on exporting activities. We attempt to identify horizontal export spillovers from FDI through its mode of transmission and categorize spillovers into the 2-digit and 4-digit industry levels and all spillover variables are measured by foreign output share and foreign employment share in the industry.

In order to examine the impact of the horizontal linkages between domestic and foreign plants on export performance of domestic firms in Thai manufacturing, we utilize the Heckman's selection model and estimate the models by means of Heckman's maximum likelihood estimator in selection models. The empirical analysis, which is based on plant-level data from the Thai manufacturing sector, generally reveals that the presence of foreign firms has a positive and significant effect on (i) the decision of domestic firms to export and (ii) the export share of domestic firms through horizontal linkages. The results show and confirm the results of previous studies where horizontal linkages have resulted in positive and significant export spillover effects to domestic plants. Firm heterogeneity and other plant-level characteristics also have the significant impact on export participation and export intensity of domestic firms. The empirical analysis also shows that plant size, location, and form of organization affect the decision and intensity to export, especially large plants and plants in



the central region. Thus, more focus should be paid to industry policies in order to help domestic firms face the challenge of FDI and to maximize export benefits. Our results prove that domestic firms in Thailand do indeed gain from FDI measured by the presence of foreign-owned firms operating in the same and across industries. Regarding export spillovers, it should be noted that different incentives for FDI may have different spillover effects towards domestic firms. In addition, export spillovers are diverse and affect exporters and non-exporters differently. Therefore, government has to carefully design the right and correct policies that stimulate growth in the economy as well as benefit domestic firms.

Concerning the type and nature of the data set, although panel data analysis may be preferred when we estimate spillover effects from FDI, the sample coverage in Thai manufacturing surveys from NSO is so low and inconsistent such that it is difficult to consider these samples representative (Ramstetter 2009). Moreover, for the firm-level or plant-level data set in Thai manufacturing, there is a trade-off between choosing the industrial census data or the manufacturing survey data. With the manufacturing survey data, we can develop the panel data analysis but with much less observations. However, since we intend to study various aspects of export spillovers. The enriched census data should be more appropriate for this study. Apart from considering both horizontal and vertical spillovers, we should also pay careful attention to the spillover variables, the control variables, and other conditions when estimating the spillover effects. Despite some limitations, we hope that this study may be treated as a new aspect for examining empirically and systematically the effects of export spillover in Thai manufacturing. Lastly, it should be noted that results can vary due to differences in research design and the quality of data, and cautious interpretation of estimated results should always be emphasized for the future work.

Table 1: Statistical Summary of the Key Variables for Export Spillovers

Variable	Unit	Obs.	Mean	Std. Dev.	Min	Max
EX	zero-one dummy	49432	0.078	0.268	0.000	1.000
LnEXshare	(ln) proportion	3862	0.380	0.249	0.010	0.693
LnKI	(ln) baht	49432	11.508	1.894	1.222	20.218
LnVAL	(ln) baht	49432	11.192	1.678	2.562	19.282
LnL	(ln) workers	49432	2.362	1.411	0.693	9.262
LnLQ	(ln) workers	49432	0.597	0.191	0.000	0.693
LnAvrRemu	(ln) baht	49432	10.555	0.606	9.904	11.486
LnScale	(ln) baht	49432	0.257	0.580	0.000	6.418
LnAge	(ln) years	49432	2.057	0.862	0.000	4.595
LnHERF	(ln) proportion	49432	0.063	0.073	0.005	0.640
LnERP	(ln) proportion	49432	0.125	0.127	-0.357	0.457
LnTechGap	(ln) proportion	49432	2.451	1.760	-5.550	12.849
LnEFOR2	(ln) proportion	49432	0.012	0.064	0.000	0.589
LnEFOR4	(ln) proportion	49432	0.012	0.067	0.000	0.646
LnYFOR2	(ln) proportion	49432	0.015	0.078	0.000	0.614
LnYFOR4	(ln) proportion	49432	0.015	0.078	0.000	0.685
LnCapacity	(ln) proportion	49432	0.562	0.114	0.010	1.099
BOI	zero-one dummy	49432	0.068	0.251	0.000	1.000
Government	zero-one dummy	49432	0.160	0.367	0.000	1.000
MUN	zero-one dummy	49432	0.438	0.496	0.000	1.000
Central	zero-one dummy	49432	0.439	0.496	0.000	1.000
JAP	zero-one dummy	49432	0.016	0.124	0.000	1.000
TCS	zero-one dummy	49432	0.011	0.104	0.000	1.000
US	zero-one dummy	49432	0.002	0.045	0.000	1.000
Product	zero-one dummy	49432	0.031	0.174	0.000	1.000
ProTech	zero-one dummy	49432	0.028	0.164	0.000	1.000
FormEcon	zero-one dummy	49432	0.070	0.256	0.000	1.000

Notes: Obs. = observations; Mean = simple average; Std. Dev = standard deviation; Min = minimum; and Max = maximum. Variables in the unit of (ln) proportion are the variables which are converted from original units into logarithmic form as  $\ln(1+x)$  where  $x$  is the variable.

Sources: Author's calculation

Notes for estimated statistics in used in Heckman's selection model:

- 1) **Wald- $\chi^2$**  is used to test for the overall significance of the two-equation model. In some models of estimated equations, if Wald- $\chi^2$  is not reported, the model would simply reduce to Tobit model.
- 2) **Rho** – Correlation between the errors in the two equations. If  $\rho = 0$  the likelihood function can be split into two parts: a Probit for the probability of being selected and an OLS regression for the expected value of Y in the selected subsample.
- 3) **Sigma** – The error from the outcome equation.

Table 2: Heckman Selection Model for Export Spillovers to All Domestic Firms

	(1)		(2)		(3)		(4)	
	EX	LnEXshare	EX	LnEXshare	EX	LnEXshare	EX	LnEXshare
LnKI	0.0690*** (7.04)	-0.00642 (-1.91)	0.0677*** (6.91)	-0.00646 (-1.93)	0.0231 (1.62)	-0.00707* (-2.16)	0.0236 (1.65)	-0.00717* (-2.20)
LnVAL	0.0418 (1.42)	-0.0341*** (-3.60)	0.0349 (1.17)	-0.0362*** (-3.81)	-0.0519 (-1.09)	-0.0355*** (-3.73)	-0.0563 (-1.18)	-0.0376*** (-3.94)
LnL	0.589*** (39.45)	0.0428*** (6.59)	0.589*** (39.61)	0.0456*** (7.47)	0.315*** (14.24)	0.0313*** (6.38)	0.315*** (14.30)	0.0332*** (6.99)
LnLQ	0.121* (1.99)	-0.00180 (-0.09)	0.115 (1.89)	-0.00215 (-0.11)	0.131 (1.34)	-0.00472 (-0.25)	0.129 (1.31)	-0.00509 (-0.27)
LnAvrRemu	0.303* (2.26)	0.189*** (3.58)	0.305* (2.28)	0.194*** (3.67)	-0.721** (-2.88)	0.170** (3.22)	-0.721** (-2.89)	0.173** (3.28)
LnScale	-0.102*** (-3.96)	-0.0152* (-2.23)	-0.106*** (-4.16)	-0.0189** (-2.87)	-0.103* (-2.41)	-0.0116 (-1.72)	-0.104* (-2.45)	-0.0148* (-2.28)
LnAge	0.0319* (1.99)	-0.0270*** (-5.06)	0.0342* (2.13)	-0.0264*** (-4.92)	0.0976*** (3.78)	-0.0258*** (-4.79)	0.0976*** (3.78)	-0.0251*** (-4.65)
LnHERF	0.810*** (3.47)	0.0778 (1.15)	0.730** (3.09)	0.0575 (0.86)	0.783* (2.00)	0.0698 (1.05)	0.729 (1.83)	0.0497 (0.75)
LnTechGap	-0.232*** (-8.32)	-0.0496*** (-5.68)	-0.238*** (-8.46)	-0.0529*** (-6.08)	-0.216*** (-4.78)	-0.0434*** (-5.10)	-0.220*** (-4.83)	-0.0462*** (-5.43)
LnEFOR2	2.211*** (5.61)	0.0979 (1.23)			-0.361 (-0.44)	0.0583 (0.71)		
LnEFOR4	0.573 (1.53)	0.186** (2.83)			0.674 (0.98)	0.183** (2.75)		
LnYFOR2			0.885* (2.22)	-0.0227 (-0.29)			-1.255 (-1.64)	-0.0342 (-0.43)
LnYFOR4			1.406*** (3.51)	0.262*** (3.68)			1.600* (2.18)	0.249*** (3.48)
LnCapacity					0.366 (1.91)	0.135*** (3.89)	0.367 (1.92)	0.137*** (3.95)
BOI					4.048*** (49.55)	0.0411 (1.38)	4.050*** (49.68)	0.0420 (1.43)
Government					0.222* (2.04)	-0.0912* (-2.46)	0.221* (2.04)	-0.0904* (-2.44)
Central					1.151*** (4.67)	-0.234*** (-4.95)	1.148*** (4.66)	-0.237*** (-5.02)
TCS					0.464** (3.05)	-0.00392 (-0.25)	0.436** (2.67)	-0.0109 (-0.69)
Product					0.280** (2.88)	-0.0129 (-1.02)	0.281** (2.88)	-0.0135 (-1.07)
Observations	49432		49432		49432		49432	
Censored obs.	45570		45570		45570		45570	
Uncensored obs.	3862		3862		3862		3862	
Wald- $\chi^2$	1196.73		1219.74		1386.59		1401.96	
Rho	0.148**		0.16**		0.095*		0.099*	
Sigma	0.223***		0.223***		0.221***		0.221***	

Notes: (1) Robust t-statistics in parentheses; (2) \*\*\* significant at 10%, \*\* significant at 5%, and \* significant at 1%.  
Sources: Author's calculation

Table 3: Size and Location and Export Spillovers

• Measured by EFOR (Foreign employment share)

	Small		Large		Central		Not Central	
	EX	LnEXshare	EX	LnEXshare	EX	LnEXshare	EX	LnEXshare
LnKI	0.0704*** (5.15)	-0.00693 (-0.99)	0.0787*** (5.32)	-0.00627 (-1.49)	0.0573*** (4.96)	-0.00443 (-1.19)	0.119*** (5.47)	-0.00667 (-0.82)
LnVAL	0.0603 (1.47)	0.00327 (0.20)	-0.00766 (-0.17)	-0.0499*** (-4.32)	0.0851* (2.43)	-0.0295** (-2.71)	-0.155* (-2.45)	-0.0635** (-3.28)
LnL	0.613*** (21.27)	0.0000195 (0.00)	0.482*** (15.88)	0.0432*** (5.94)	0.555*** (31.38)	0.0506*** (7.16)	0.688*** (22.00)	0.0336** (2.88)
LnLQ	0.139 (1.55)	0.0215 (0.53)	0.150 (1.77)	-0.00553 (-0.26)	0.0665 (0.92)	-0.00377 (-0.17)	0.275* (2.25)	0.0158 (0.40)
LnAvrRemu	-0.177 (-0.80)	0.0540 (0.45)	0.557* (2.47)	0.237*** (3.97)	0.588*** (7.44)	0.0260 (1.06)	0.0386 (0.23)	0.0905 (1.39)
LnScale	-0.0662 (-1.20)	-0.0491* (-2.36)	-0.0701* (-2.13)	-0.0119 (-1.53)	-0.0918** (-3.13)	-0.0197** (-2.59)	-0.0568 (-0.92)	-0.000464 (-0.03)
LnAge	0.0603** (2.79)	-0.0265** (-2.69)	0.0183 (0.72)	-0.0292*** (-4.50)	0.0304 (1.65)	-0.0312*** (-5.21)	0.0525 (1.52)	-0.00745 (-0.65)
LnHERF	1.031*** (3.45)	0.0192 (0.17)	0.608 (1.67)	0.102 (1.11)	0.592* (2.23)	0.0993 (1.40)	1.288** (2.86)	-0.163 (-0.97)
LnERP	0.191 (0.96)	0.191* (2.10)	-0.198 (-0.86)	-0.00483 (-0.09)	0.167 (0.92)	0.0188 (0.35)	-0.257 (-1.02)	0.0420 (0.49)
LnTechGap	-0.196*** (-5.04)	-0.0104 (-0.62)	-0.269*** (-6.67)	-0.0606*** (-5.80)	-0.181*** (-5.52)	-0.0474*** (-4.86)	-0.426*** (-6.72)	-0.0742*** (-3.91)
LnEFOR2	2.786*** (4.89)	-0.131 (-0.65)	1.706*** (3.40)	0.120 (1.33)	2.264*** (5.53)	0.155 (1.77)	3.178* (2.30)	0.201 (1.03)
LnEFOR4	1.335* (2.42)	0.153 (1.09)	0.502 (1.07)	0.160* (2.08)	0.502 (1.28)	0.170* (2.30)	0.273 (0.23)	0.0664 (0.49)
Observations	43085		6347		21692		27740	
Censored obs.	41980		3590		18499		27071	
Uncensored obs.	1105		2757		3193		669	
Wald- $\chi^2$	N/A		1148.89		N/A		N/A	
Rho	-0.25		0.14**		0.266***		-0.081	
Sigma	0.231***		0.22***		0.23***		0.191***	

• Measured by YFOR (Foreign output share)

LnYFOR2	1.310* (2.24)	0.0774 (0.32)	0.620 (1.25)	-0.0802 (-0.91)	0.819 (1.94)	-0.0165 (-0.19)	2.332* (2.04)	0.126 (0.73)
LnYFOR4	2.010*** (3.34)	0.0295 (0.11)	1.211* (2.46)	0.313*** (3.81)	1.456*** (3.42)	0.285*** (3.56)	0.619 (0.56)	0.106 (0.72)
Observations	43085		6347		21692		27740	
Censored obs.	41980		3590		18499		27071	
Uncensored obs.	1105		2757		3193		669	
Wald- $\chi^2$	N/A		1160.85		N/A		N/A	
Rho	-0.081		0.134*		0.268***		-0.07	
Sigma	0.226***		0.218***		0.23***		0.19***	

Notes: (1) Robust t-statistics in parentheses; (2) \*\*\* significant at 10%, \*\* significant at 5%, and \* significant at 1%.

Source: Author's calculation

Table 4: Form of Organization and Export Spillovers

• Measured by EFOR (Foreign employment share)

	ProTech	ProTech	Private	Private	Head	Head	Single	Single
	EX	LnEXshare	EX	LnEXshare	EX	LnEXshare	EX	LnEXshare
LnKI	-0.00187 (-0.06)	-0.00565 (-0.78)	0.0544*** (5.10)	-0.00686* (-2.04)	0.0733*** (3.53)	-0.00245 (-0.45)	0.0610*** (5.35)	-0.00726 (-1.71)
LnVAL	-0.123 (-1.46)	-0.0424 (-1.89)	0.0455 (1.49)	-0.0339*** (-3.54)	-0.114* (-2.07)	-0.0773*** (-5.15)	0.0447 (1.24)	-0.0107 (-0.89)
LnL	0.412*** (8.81)	0.0593*** (3.56)	0.592*** (38.99)	0.0427*** (6.79)	0.458*** (14.50)	0.0379*** (4.16)	0.571*** (31.42)	0.0422*** (5.11)
LnLQ	-0.0278 (-0.14)	-0.0847 (-1.93)	0.0750 (1.16)	-0.00181 (-0.09)	0.00347 (0.03)	0.0220 (0.70)	0.127 (1.78)	-0.0127 (-0.53)
LnAvrRemu	0.727 (1.26)	-0.0549 (-0.41)	0.230 (1.58)	0.193*** (3.63)	0.00756 (0.03)	0.238** (3.16)	0.391* (2.32)	0.150* (2.01)
LnScale	-0.0260 (-0.40)	-0.0234 (-1.58)	-0.0977*** (-3.74)	-0.0132 (-1.92)	-0.0756 (-1.71)	-0.0147 (-1.46)	-0.0728* (-2.17)	-0.00570 (-0.60)
LnAge	0.0579 (1.06)	-0.0438*** (-3.39)	0.0203 (1.24)	-0.0270*** (-5.03)	0.0230 (0.68)	-0.0285** (-3.28)	0.0415* (2.24)	-0.0222** (-3.29)
LnHERF	0.0857 (0.14)	0.0923 (0.55)	0.775** (3.23)	0.0914 (1.36)	0.947* (2.20)	0.0436 (0.34)	0.723* (2.56)	0.0983 (1.27)
LnERP	0.166 (0.36)	-0.0479 (-0.49)	0.125 (0.83)	0.0210 (0.45)	-0.269 (-0.88)	-0.00456 (-0.06)	0.0421 (0.25)	0.0488 (0.82)
LnTechGap	-0.222** (-3.05)	-0.0583** (-2.86)	-0.226*** (-7.87)	-0.0488*** (-5.58)	-0.308*** (-6.16)	-0.0821*** (-5.80)	-0.219*** (-6.40)	-0.0301** (-2.71)
LnEFOR2	1.403 (1.32)	0.391* (2.02)	2.223*** (5.65)	0.101 (1.28)	0.889 (1.15)	-0.282* (-1.99)	2.627*** (5.82)	0.247** (2.68)
LnEFOR4	0.973 (0.97)	0.0372 (0.23)	0.566 (1.51)	0.185** (2.82)	1.129 (1.55)	0.465*** (3.82)	0.569 (1.33)	0.112 (1.50)
Observations	1367		41499		3476		45956	
Censored obs.	726		37684		2077		43493	
Uncensored obs.	641		3815		1399		2463	
Wald- $\chi^2$	344.82		1237.19		592.55		N/A	
Rho	0.411		0.161**		0.274***		0.15*	
Sigma	0.213***		0.223***		0.22***		0.223***	

• Measured by YFOR (Foreign output share)

LnYFOR2	0.317 (0.36)	0.0952 (0.55)	0.894* (2.25)	-0.0181 (-0.23)	-0.169 (-0.25)	-0.337* (-2.56)	1.386** (2.95)	0.133 (1.42)
LnYFOR4	1.602 (1.79)	0.229 (1.42)	1.402*** (3.51)	0.259*** (3.63)	1.858** (2.75)	0.502*** (4.06)	1.220* (2.57)	0.160 (1.88)
Observations	1367		41499		3476		45956	
Censored obs.	726		37684		2077		43493	
Uncensored obs.	641		3815		1399		2463	
Wald- $\chi^2$	329.25		1259.55		610.9		825.77	
Rho	0.402		0.172***		0.294***		0.155*	
Sigma	0.213***		0.223***		0.221***		0.223***	

Notes: (1) Robust t-statistics in parentheses; (2) \*\*\* significant at 10%, \*\* significant at 5%, and \* significant at 1%.

Source: Author's calculation

Table 5: Export Spillovers from FDI in Selected Industries

Variables	Food products		Textiles		Leather and Footwear		Wood products		Rubber and Plastics		Non-metallic mineral products		Furniture	
	EX-De	EX-In	EX-De	EX-In	EX-De	EX-In	EX-De	EX-In	EX-De	EX-In	EX-De	EX-In	EX-De	EX-In
FDI Spillovers measured foreign employment share														
EFOR4	<b>6.71</b> (5.19)	0.17 (0.89)	<b>6.84</b> (4.96)	<b>0.58</b> (2.55)	<b>4.31</b> (3.01)	<b>0.49</b> (2.01)	5.86 (0.69)	<b>4.50</b> (3.11)	<b>2.96</b> (6.23)	<b>0.18</b> (2.04)	<b>5.68</b> (4.33)	<b>0.60</b> (3.11)	<b>2.40</b> (4.94)	<b>0.12</b> (2.12)
Censored obs.	12283		4675		729		3211		1543		4130		4221	
Uncensored obs.	521		211		133		166		389		185		510	
Wald- $\chi^2$	107.73		27.74		N/A		58.59		143.62		117.3		35.86	
Rho	-0.11		0.21*		0.36*		-0.11		0.03		0.24		-0.23	
Sigma	0.228***		0.214***		0.24***		0.20***		0.22***		0.20***		0.201***	
FDI Spillovers measured foreign output share														
YFOR4	<b>4.75</b> (6.23)	0.29 (1.75)	<b>4.10</b> (6.07)	<b>0.41</b> (2.98)	<b>3.76</b> (3.11)	0.38 (1.66)	3.17 (0.83)	1.03 (1.57)	<b>2.58</b> (6.84)	<b>0.19</b> (2.31)	<b>4.89</b> (4.33)	<b>0.58</b> (3.62)	<b>2.38</b> (5.49)	<b>0.11</b> (2.02)
Censored obs.	12283		4675		729		3211		1543		4130		4221	
Uncensored obs.	521		211		133		166		389		185		510	
Wald- $\chi^2$	108.59		30.89		83.21		55.24		144.97		128.9		36.1	
Rho	0.01		0.29*		0.39**		-0.11		0.03		0.3		-0.22	
Sigma	0.22***		0.22***		0.24***		0.20***		0.22***		0.202***		0.20***	

Notes: (1) Robust t-statistics in parentheses; (2) \*\*\* significant at 10%, \*\* significant at 5%, and \* significant at 1%. Other independent variables (not reported here) are the 2-digit industry dummies and region dummies and constants from all equations. EX-De stands for Export Decision and EX-In stands for Export Intensity. The results shown here are only the coefficients of export spillover variables and all other independent variables used in the estimation are omitted to save space.

Source: Author's calculation

## Appendix 1: List of 2-digit and 3-digit Industries in Thai Manufacturing

2-digit Industrial Classification		3-digit Industrial Classification	
ISIC		ISIC	
15	Food products and beverages	151	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats
		152	Dairy products
		153	Grain mill products and starch products, and prepared animal feeds
		154	Other food products
		155	Beverages
16	Tobacco products	160	Tobacco products
17	Textiles	171	Spinning, weaving and finishing of textiles
		172	Other textiles
		173	Knitted and crocheted fabrics and articles
18	Wearing apparel; dressing and dyeing of fur	181	Wearing apparel, except fur apparel
		182	Dressing and dyeing of fur; manufacture of articles of fur
19	Leather and leather products	191	Tanning and dressing of leather; luggage, handbags, saddler and harness
		192	Footwear
20	Wood and products of wood and cork	201	Sawmilling and plating of wood
		202	Products of wood, cork, straw and plaiting materials
21	Paper and paper products	210	Paper and paper products
22	Publishing, printing and reproduction of recorded media	221	Printing
		222	Service activities related to printing
		223	Reproduction of recorded media
23	Coke and refined petroleum products	231	Coke oven products
		232	Refined petroleum products
24	Chemicals and chemical products	241	Basic chemicals
		242	Other chemical products
		243	Man-made fibers
25	Rubber and plastics products	251	Rubber products
		252	Plastic products
26	Non-metallic and mineral products	261	Glass and glass products
		269	Non-metallic and mineral products, not elsewhere classified (n.e.c.)
27	Basic metals	271	Basic iron and steel
		272	Basic precious and non-ferrous metals
		273	Casting of metals

Source: National Statistical Office of Thailand (NSO)

List of 2-digit and 3-digit Industries in Thai Manufacturing (continued)

2-digit Industrial Classification		3-digit Industrial Classification	
ISIC		ISIC	
28	Fabricated metal products, except machinery and equipments	281	Structural metal products, tanks, reservoirs and steam generators
		289	Other fabricated metal products; service activities to producers of fabricated metal products
29	Machinery and equipment, n.e.c.	291	General purpose machinery
		292	Special purpose machinery
		293	Domestic appliances n.e.c.
30	Office, accounting and computing machineries	300	Office, accounting and computing machineries
31	Electrical machineries and apparatus	311	Electric motors, generators and transformers
		312	Electricity distribution and control apparatus
		313	Insulated wire and cable
		314	Accumulators, primary cells and batteries
		315	Electric lamp
		319	Other electrical equipment n.e.c.
32	Radio, television and communication equipments and apparatus	321	Electronic valves and tubes and other electronic components
		322	Television and radio transmitters and apparatus for line telephony and line telegraphy
		323	Television and radio receivers and associated consumer goods
33	Medical, precision and optical instruments, watches and clocks	331	Medical appliances and instruments for measuring, checking, testing, navigating
		332	Optical instruments and photographic equipment
		333	Watches and clocks
34	Motor vehicles, trailers and semi-trailers	341	Motor vehicles
		342	Bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers
		343	Parts and accessories for motor vehicles and their engines
35	Other transport equipment	351	Building and repairing of ships and boats
		353	Aircraft and spacecraft
		359	Transport equipment n.e.c.
36	Furniture	361	Furniture
		369	Manufacturing of furniture, n.e.c.
37	Recycling	371	Recycling of metal waste and scrap
		372	Recycling of non-metal waste and scrap

Source: National Statistical Office of Thailand (NSO)



Appendix 2: List of 4-digit Industries in Thai Manufacturing

ISIC	Description
1511	production of meat and meat products
1512	processing and preserving of fish and fish products
1513	processing of fruit and vegetables
1514	manufacture of vegetable and animal oils and fats
1520	manufacture of dairy products
1531	manufacture of grain mill products
1532	manufacture of starches and starch products
1533	manufacture of prepared animal feeds
1541	manufacture of bakery products
1542	manufacture of sugar
1543	manufacture of cocoa, chocolate and sugar confectionery
1544	manufacture of macaroni, noodles, couscous and similar farinaceous products
1549	manufacture of other food products
1554	manufacture of soft drink; bottling of mineral waters
1600	manufacture of tobacco products
1711	preparation and spinning of textile fibres; weaving of textiles
1712	finishing of textiles
1721	manufacture of made-up textile articles, except apparel
1722	manufacture of carpets and rugs
1723	manufacture of cordage, rope, twine and netting
1729	manufacture of other textiles n.e.c.
1730	manufacture of knitted and crocheted fabrics and articles
1810	manufacture of wearing apparel, except fur apparel
1820	dressing and deing of fur, manufacture of articles of fur
1911	tanning and dressing of leather

Source: National Statistical Office of Thailand (NSO)

<b>ISIC</b>	<b>Description</b>
1912	manufacture of luggage, handbags and the like, saddlery and harnesses
1920	manufacture of footwear
2010	sawmilling and planing of wood
2021	veneer sheets, manufacture of plywood, laminated board, particle board and other panels and boards
2022	manufacture of builders' carpentry and joinery tools
2023	manufacture of wooden containers
2029	manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials
2101	manufacture of pulp, paper and paperboard
2102	manufacture of corrugated paper and paperboard and of containers of paper and paperboard
2109	manufacture of other articles of paper and paperboard
2211	publishing of books, brochures, musical books and other publications
2212	publishing of newspapers, journals and periodicals
2219	other publishing
2221	Printing
2222	service activities related to printing
2230	reproduction of recorded media
2320	manufacture of refined petroleum products
2411	manufacture of basic chemicals, except fertilizers and nitrogen compounds
2412	manufacture of fertilizers and nitrogen compounds
2413	manufacture of plastics in primary forms and of synthetic rubber
2421	manufacture of pesticides and other agro-chemical products
2422	manufacture of paints, varnishes and similar coatings, printing ink and mastics
2423	manufacture of pharmaceuticals, medicinal chemicals and botanical products
2424	manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparation
2429	manufacture of other chemical products n.e.c.
2430	manufacture of man-made fibres
2511	manufacture of rubber tyres and tubes; retreading rebuilding of rubber tyre

<b>ISIC</b>	<b>Description</b>
2519	manufacture of other rubber products
2520	manufacture of plastic products
2610	manufacture of glass and glass products
2691	manufacture of non-structural non-refractory ceramic ware
2692	manufacture of refractory ceramic products
2693	manufacture of structural non-refractory clay products
2694	manufacture of cement, lime and plaster
2696	cutting, shaping and finishing of stone
2699	manufacture of other non-metallic mineral products n.e.c.
2710	manufacture of basic iron and steel
2720	manufacture of basic precious and non-ferrous metals
2731	casting of iron and steel
2732	casting of non-ferrous metals
2811	manufacture of structural metal products
2812	manufacture of tanks, reservoirs and containers of metal
2891	forging, pressing , stamping and roll-forming of metal; powder metallurgy
2892	treatment and coating of metals; general mechanical engineering on a fee or contract basis
2893	manufacture of cutlery, hand tools and general hardware
2899	manufacture of other fabricated metal products n.e.c.
2912	manufacture of engines and turbines, except aircraft, vehicle and cycle engines
2913	manufacture of bearings, gears, gearing and driving elements
2915	manufacture of lifting and handling equipment
2919	manufacture of other general purpose machinery
2921	manufacture of agricultural and forestry machinery
2922	manufacture of machine-tools
2924	machinery for mining, quarrying and construction
2925	machinery for food, beverage and tobacco processing
2926	machinery for textile, apparel and leather production

<b>ISIC</b>	<b>Description</b>
2929	manufacture of other special purpose machinery
2930	manufacture of domestic appliances n.e.c
3000	manufacture of office, accounting and computing machinery
3110	manufacture of electric motors, generators, and transformers
3120	manufacture of electricity distribution and control apparatus
3130	manufacture of insulated wire and cables
3140	manufacture of accumulators, primary cells and primary batteries
3150	manufacture of electric lamps
3190	manufacture of other electrical equipment n.e.c
3210	manufacture of electronic valves and tubes and other electronic components
3220	manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy
3230	manufacture of television and radio receivers and associated consumer goods
3311	manufacture of medical and surgical equipment and or orthopaedic appliances
3320	manufacture of optical instruments and photographic equipment
3330	manufacture of watches and clocks
3410	manufacture of motor vehicles
3420	manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers
3430	manufacture of parts and accessories for motor vehicles and their engines
3591	manufacture of motorcycles
3610	manufacture of furniture
3691	manufacture of jewellery and related articles
3693	manufacture of sports goods
3694	manufacture of games and toys
3699	other manufacturing n.e.c.

Source: National Statistical Office of Thailand (NSO)

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## Effect of Planning Horizon on Repowering Decisions of Renewable Power Producers

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### ABSTRACT

In this paper, we formulate and analyze two mathematical models for repowering/exit decisions of renewable power producers where the planning horizon length varies by the number of repowering. Specifically, we assume that the number of repowering is either one or two, and the operations and maintenance cost follows a Geometric Brownian Motion (GBM) process. By examining the effect of different planning horizon lengths, we show interesting and relevant economic implications and managerial insights. For example, within the framework of our modeling and analysis, a longer planning horizon leads to a longer expected economic life for each successive plant.

Keywords: Repowering, Renewable Power Generation, Real Options

### 1 INTRODUCTION

In recent years the renewable power industries have grown rapidly worldwide. An illustrative example is the wind power industry in the U.S., with its total capacity installed increasing from 24,651 MW in 2008 to 34,296 MW in 2009 (EIA, 2010). At the same time, the production technologies for the renewable energy have also experienced substantial developments. These developments, however, have also raised several important issues regarding the retirement of the current aging renewable power production sites. Installed decades ago, these sites which occupied perhaps the best locations for renewable power production, now become obsolete with low production efficiency and high operations and maintenance (O&M) cost.

As for wind power, Wagman (2008) reports that the old turbines operating since 1980's in California are very inefficient and underpowered, and wind resource could be much better exploited by replacing them with new turbines with a much larger capacity, building them higher off the ground, and spacing them apart. The series of action from partial decommissioning of the aging site to the installation of new wind turbines is often referred to as "repowering".

We note that, in some European countries with large numbers of aging renewable plants, various government incentives have been utilized to encourage repowering. For example, Denmark has been offering production based feed-in tariffs for certified wind repowering projects since 2001, and it now has more than 2/3 of its oldest turbines repowered (Wiser, 2007, p.9,10). Also, Germany has been offering similar

feed-in tariffs for repowering projects since the Amendment of the Renewable Technology Law in 2004 (Wiser, 2007, p.11).

In the U.S., however, we observe that repowering activities have been very slow until now. For example, in California, wind repowering projects have been conducted since the enactment of the state's renewable portfolio standard (RPS) in 2002. By the end of 2007, approximately 365 MW's of wind capacity have been repowered, which merely accounts for about 20% of all capacity installed before 1994 (KEMA, Inc., 2008, p.5).

Inspired by the current situation of repowering in the U.S. (especially in California) wind energy industry as well as by analogous observations on the solar power industry, this study is aimed to understand how renewable power producers make economically rational decisions regarding repowering of their current (aging) plants. We note that entry decision making of current existing plants is not considered in this study so that we can concentrate on the repowering issue without any distraction.

Theoretically, an individual producer can keep repowering for hundreds of years, which may make the problem analytically intractable. However, based on the forecast-horizon theory, the forecasted information beyond a certain finite horizon may have little effect on the optimal decision making in the current period (Chand *et al.*, 2002, p. 30). Also, the quality of forecast definitely deteriorates as the time length from the current point increases. This idea provides us the basis for implementing the rolling horizon framework in our problem, which allows us to choose a specific study horizon. Though the study horizon can usually be chosen arbitrarily, we note that some selection might "leave the firm in an undesirable state in the future" (Chand *et al.*, 2002, p. 30).

Renewable power generation facilities tend to have a highly variable lifespan depending on factors such as construction quality and operation conditions. In life-cycle analysis and levelized cost calculation of these renewable energy sources, generation units such as wind turbines and solar panels are often assumed to have an economic life of 20 years (Martinez *et al.*, 2009, p. 669). We also note that, it is difficult to forecast the renewable power industry in 40 or 50 years and to predict what options the producer will have by then, due to the uncertainties from technology development, market and policy reformation. Based on this, we generate two different rolling-horizon scenarios as follows:

Scenario 1 (the baseline): the study horizon contains only one cycle of repowering. In other words, within the planning horizon, the current plant will be repowered once, and the producer is assumed to be unable or not willing to re-repower its repowered plant.

Scenario 2 (the extension): the study horizon contains only two cycles of repowering, that is, the current plant will be repowered twice and then terminated permanently.

For both scenarios, we present in this paper the mathematical models for renewable power producers when the O&M cost follows a GBM process. We also compare the results of the two scenarios to examine the effect of different length planning horizons on repowering decision making.

The rest of the paper is organized as follows. We first formulate an exit decision

model for the baseline scenario, and derive the repowering and exit thresholds. Next, we extend the baseline model to scenario 2 in which the current plant will be repowered twice and derive the corresponding threshold values. This is followed by the analytical comparison of both scenarios. Finally, we make concluding remarks and comment on future research.

## 2 BASELINE SCENARIO ANALYSIS

In this section, we consider a producer with a single renewable power plant that is current in operation. In the baseline scenario, the current plant will be repowered once and then terminated, and hence the producer has to make two decisions: 1) when to repower the current plant, and 2) when to terminate the repowered one.

### 2.1 General Modeling Assumptions

Prior to the model formulation, we make the following critical assumptions that are applied to all three scenarios. These general assumptions are necessary in the sense that they enable us to focus on the study of economically rational repowering decisions and to maintain mathematical derivations tractable. To avoid any future confusion, we first define indicator variable  $i$  such that  $i=1$  designates the current plant, while  $i=2,3$  designates the first and the second repowered plants (if repowered).

Assumption 1: For each plant, there exists a power purchase agreement between the plant and a utility company with an appropriate transmission connection at a fixed selling price of  $P_i$  (\$/MWh) at any time point. Examples of the fixed energy pricing can be found in *Fixed Energy Prices for Renewable* (PG&E, 2012).

Assumption 2: In making the repowering and/or exit decision, the decision maker will rely on the fixed (expected) production quantity per unit time. By this assumption, we are not implying the actual production quantity remains constant over time, but, for planning purposes of the producer, we are simplifying the dynamic aspects of wind speed, load, etc. (Fleten and Maribu, 2004). Specifically, we will utilize the fixed annual production quantity,  $K_i$  (MWh per year), which equals to the nameplate capacity times the capacity factor.

Assumption 3: For each plant, the operation and maintenance cost (O&M cost; \$/MWh) at any time point,  $C_i$ , follows a Geometric Brownian Motion (GBM) processes. Specifically,

$$dC_i = \alpha_{C_i} C_i dt + \sigma_{C_i} C_i dz \quad (1)$$

where  $\alpha_{C_i}$  is the instantaneous growth rate of the O&M cost (% per year),  $\sigma_{C_i}$  is the instantaneous volatility of  $C_i$  (% per square root of year), and  $dz$  is the increment of a standard Wiener process  $z$  ( $dz = \varepsilon_i \sqrt{dt}$  where  $\varepsilon_i \sim N(0,1)$ ).

Assumption 4: There exists a fixed exit fee of  $W_i$  ( $W_i \geq 0$ ) when the option to terminate plant  $i$  is exercised, and the decision maker is aware of this *a priori*. Moreover, when plant  $i$  is repowered, the producer also has to pay its partial decommissioning fee of  $W_i'$  as well as new plant  $i+1$ 's investment of  $I_{i+1}$ . All of these cost components are assumed to be up-front cost that occurs instantaneously



when the corresponding decision is made.

Assumption 5: The remaining cost components are irrelevant to the decision maker regarding the option to repower and then exit. Also, we are assuming that the rest of the cost components such as administrative costs, insurance, tax, etc. are negligible for our planning purposes (Min *et al.*, 2012).

## 2.2 Baseline Scenario Modeling

Under these assumptions, the problem can be divided into two sequential stages as illustrated in Fig.1, where to repower the current plant occurs at  $\tau_r$  and to terminate the repowered one occurs at  $\tau_D$ .

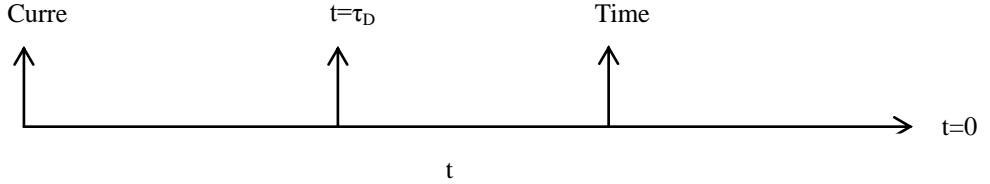


Fig.1: Baseline scenario timeline

We notice that each of the decision can be viewed as an individual optimal-stopping problem, and therefore we solve the problem backwards by starting with the final stage, where the repowered plant is operating and the time to exit needs to be determined. According to Dixit and Pindyck (1994, p.103,104), it can also be verified that in our model, there exists a single cut off value of  $C_2^b$  such that it is optimal to exit when the repowered plant's O&M cost  $C_2$  exceeds  $C_2^b$ .

As long as it is not optimal to abandon the repowered plant (i.e., in the continuation region), the value function of the repowered plant  $V_2(C_2)$  must satisfy the following differential equation, which results from Bellman's principle of optimality:

$$\rho V_2 dt = (P_2 - C_2) K_2 dt + E[dV_2] \quad (2)$$

where  $\rho$  is the annual discount rate (% per year).

The left-hand side of (2) is the total return on the value of the repowered plant. The first term of the right-hand side is the immediate profit flow from keeping the repowered plant operating, while the last term is the expected capital appreciation of the repowered plant's value function.

By Ito's lemma,  $dV_2$  could be expanded as

$$dV_2 = \frac{\partial V_2}{\partial t} + \frac{\partial V_2}{\partial C_2} (\alpha_{C_2} C_2 dt + \sigma_{C_2} C_2 dz) + \frac{1}{2} \frac{\partial^2 V_2}{\partial C_2^2} \sigma_{C_2}^2 C_2^2 dt$$

We note that we are considering an infinite horizon problem here so  $V_2(C_2)$  is time invariant. Hence,  $\frac{\partial V_2}{\partial t} = 0$  and the above equation becomes

$$dV_2 = \frac{\partial V_2}{\partial C_2} (\alpha_{C_2} C_2 dt + \sigma_{C_2} C_2 dz) + \frac{1}{2} \frac{\partial^2 V_2}{\partial C_2^2} \sigma_{C_2}^2 C_2^2 dt \quad (3)$$

Substituting  $dV_2$  in (3) into (2) we have

$$\rho V_2 dt = (P_2 - C_2) K_2 dt + E \left[ \frac{\partial V_2}{\partial C_2} (\alpha_{C_2} C_2 dt + \sigma_{C_2} C_2 dz) + \frac{1}{2} \frac{\partial^2 V_2}{\partial C_2^2} \sigma_{C_2}^2 C_2^2 dt \right]$$

Since  $E[dz] = 0$ , we have  $E \left[ \frac{\partial V_2}{\partial C_2} \sigma_{C_2} C_2 dz \right] = 0$ , and the above equation can be simplified as

$$\rho V_2 dt = (P_2 - C_2) K_2 dt + \frac{\partial V_2}{\partial C_2} \alpha_{C_2} C_2 dt + \frac{1}{2} \frac{\partial^2 V_2}{\partial C_2^2} \sigma_{C_2}^2 C_2^2 dt$$

By dividing both sides by  $dt$  and grouping terms we have

$$\frac{1}{2} \frac{\partial^2 V_2}{\partial C_2^2} \sigma_{C_2}^2 C_2^2 + \frac{\partial V_2}{\partial C_2} \alpha_{C_2} C_2 - \rho V_2 + (P_2 - C_2) K_2 = 0 \quad (4)$$

Equation (4) is an ordinary differential equation (ODE). To guarantee its convergence as well as economic meaning, we impose that  $\alpha_{C_2} < \rho$  (Costa Lima and Suslick, 2006, p.89).

We note that the annual discount rate  $\rho$  is also referred commonly as the expected rate of return if we resolve the same problem using the different approach of contingent claims analysis. In contingent claims analysis, this rate in practice has the interpretation as the opportunity cost of capital, and can be calculated by the CAPM model.

The following boundary conditions between the operating and exit states are needed to obtain the optimal threshold  $C_2^b$ .

$$V_2(C_2^b) = -W_2 \quad (5)$$

$$V_2'(C_2^b) = 0 \quad (6)$$

The value-matching condition (5) requires that at the exit threshold, the value of the repowered plant equals to the value of exit. The smooth-pasting condition (6) ensures that  $C_2^b$  is the optimal exercise point by requiring the continuance and smoothness of  $V_2(C_2)$  at  $C_2^b$ .

The structure of the solution contains the general solution of the homogeneous part of (4) as well as a particular solution to the full equation, which is in the form of

$$V_2^b(C_2) = A_2^b C_2^{\beta_2} + A_{22}^b C_2^{\beta_{22}} - C_2 K_2 / (\rho - \alpha_{C_2}) + P_2 K_2 / \rho$$

where  $\beta_2$  and  $\beta_{22}$  are the roots of the characteristic quadratic equation as

$$1/2 \sigma_{C_2}^2 \beta^2 + (\alpha_{C_2} - 1/2 \sigma_{C_2}^2) \beta - \rho = 0$$

Solving the quadratic equation we have

$$\beta_2 = \left( 1/2 \sigma_{C_2}^2 - \alpha_{C_2} + \sqrt{(\alpha_{C_2} - 1/2 \sigma_{C_2}^2)^2 + 2 \sigma_{C_2}^2 \rho} \right) / \sigma_{C_2}^2 > 1$$

$$\beta_{22} = \left( 1/2 \sigma_{C_2}^2 - \alpha_{C_2} - \sqrt{(\alpha_{C_2} - 1/2 \sigma_{C_2}^2)^2 + 2 \sigma_{C_2}^2 \rho} \right) / \sigma_{C_2}^2 < 0$$

We also note that when  $C_2 \rightarrow 0$ , i.e., the O&M cost becomes negligible, the repowered plant will not be abandoned, which indicates that the value of the option to exit approaches zero, therefore  $A_{22}^b = 0$ . After eliminating this speculative bubble, the general solution then becomes

$$V_2^b(C_2) = A_2^b C_2^{\beta_2} - C_2 K_2 / (\rho - \alpha_{C_2}) + P_2 K_2 / \rho \quad (7)$$

Solving (7) with (5) and (6), we have

$$C_2^b = \frac{(P_2 K_2 / \rho + W_2)(\rho - \alpha_{C_2}) \beta_2}{(\beta_2 - 1) K_2} \quad (8)$$

$$A_2^b = \frac{K_2}{(\rho - \alpha_{C_2}) \beta_2 (C_2^b)^{\beta_2 - 1}} \quad (9)$$

Before the decision maker decides to exit (i.e., the decision maker is still holding the option to exit), the value of the repowered plant consists two parts: the value of the operating plant and the value of the option to exit.

Based on this, (7) could be interpreted as follows: The first term is the value of the option to exit and the last two terms are the value of the operating repowered plant when the decision maker has to keep it operating despite any losses, given an infinite operating horizon. In other words, that last two terms represent the expected cost and revenue streams when the initial price and cost are observed as  $P_2$  and  $C_2$ .

If we denote  $C_2^0$  will be the initial cost at any time point when (i.e., whenever) the repowered plant starts to operate, the value of the repowered plant will be

$$V_2^b(C_2^0) = A_2^b (C_2^0)^{\beta_2} - C_2^0 K_2 / (\rho - \alpha_{C_2}) + P_2 K_2 / \rho$$

Now we proceed to move backward and examine stage one, where the current plant is operating. At this stage, the time to repower the current plant needs to be determined. Similar to what we did in stage 2, the following ODE has to be satisfied in the continuation region where it is not yet optimal to repower.

$$\frac{1}{2} \frac{\partial^2 V_1}{\partial C_1^2} \sigma_{C_1}^2 C_1^2 + \frac{\partial V_1}{\partial C_1} \alpha_{C_1} C_1 - \rho V_1 + (P_1 - C_1) K_1 = 0$$

The following two boundary conditions must also hold at the optimal repowering threshold  $C_1^b$ :

$$V_1(C_1^b) = V_2^b(C_2^0) - W_1^r - I_2$$

$$V_1'(C_1^b) = 0$$

Therefore, the value function of the current plant as well as the repowering threshold can be solved as follows:

$$V_1^b(C_1) = A_1^b C_1^{\beta_1} - C_1 K_1 / (\rho - \alpha_{C_1}) + P_1 K_1 / \rho \quad (10)$$

$$C_1^b = \frac{[P_1 K_1 / \rho - V_2^b(C_2^0) + W_1^r + I_2](\rho - \alpha_{C_1}) \beta_1}{(\beta_1 - 1) K_1} \quad (11)$$

$$A_1^b = \frac{K_1}{(\rho - \alpha_{C_1}) \beta_1 (C_1^b)^{\beta_1 - 1}} \quad (12)$$

where  $\beta_1 = \left( 1/2 \sigma_{C_1}^2 - \alpha_{C_1} + \sqrt{(\alpha_{C_1} - 1/2 \sigma_{C_1}^2)^2 + 2 \sigma_{C_1}^2 \rho} \right) / \sigma_{C_1}^2 > 1$ .

### 3. EXTENSION SCENARIO ANALYSIS

In this section, we model and solve for the optimal repowering/exit decisions in our scenario 2 (extension), where repowering is considered to be implemented twice in the producer's planning horizon. Fig.2 below shows the decision making timeline of this scenario, where repowering occurs at both time  $\tau_r$  and  $\tau_{rr}$ , and to exit occurs at  $\tau_D$ .

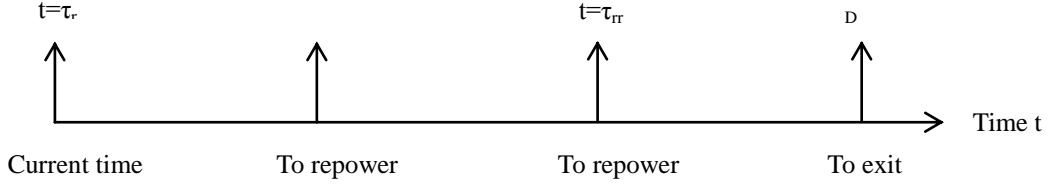


Fig.2: Extension scenario timeline

Analogous to the baseline one, each decision in scenario 2 can also be viewed as an individual optimal-stopping problem, and we solve the problem backwards by starting with the final stage, where the second repowered plant is operating and the time to exit needs to be determined. The value function of the project  $V_3^e(C_3)$  as well as the optimal exit threshold  $C_3^e$  can be derived as follows:

$$V_3^e(C_3) = A_3^e C_3^{\beta_3} - C_3 K_3 / (\rho - \alpha_{C_3}) + P_3 K_3 / \rho \quad (13)$$

$$C_3^e = \frac{(P_3 K_3 / \rho + W_3)(\rho - \alpha_{C_3}) \beta_3}{(\beta_3 - 1) K_3} \quad (14)$$

$$A_3^e = \frac{K_3}{(\rho - \alpha_{C_3}) \beta_3 (C_3^e)^{\beta_3 - 1}} \quad (15)$$

where  $\beta_3 = \left( 1/2 \sigma_{C_3}^2 - \alpha_{C_3} + \sqrt{(\alpha_{C_3} - 1/2 \sigma_{C_3}^2)^2 + 2 \sigma_{C_3}^2 \rho} \right) / \sigma_{C_3}^2$ .

Defining  $C_3^0$  as the initial cost of the second repowered plant, we have

$$V_3^e(C_3^0) = A_3^e (C_3^0)^{\beta_3} - C_3^0 K_3 / (\rho - \alpha_{C_3}) + P_3 K_3 / \rho$$

Then we move back to stage 2 where the first repowered plant is operating and the time to re-repower needs to be determined. The value function  $V_2^e(C_2)$  and the re-repowering threshold  $C_2^e$  can be obtained as follows:

$$V_2^e(C_2) = A_2^e C_2^{\beta_2} - C_2 K_2 / (\rho - \alpha_{C_2}) + P_2 K_2 / \rho \quad (16)$$

$$C_2^e = \frac{(P_2 K_2 / \rho - V_3^e(C_3^0) + W_2^r + I_3)(\rho - \alpha_{C_2}) \beta_2}{(\beta_2 - 1) K_2} \quad (17)$$

$$A_2^e = \frac{K_2}{(\rho - \alpha_{C_2}) \beta_2 (C_2^e)^{\beta_2 - 1}} \quad (18)$$

Following similar steps we move backwards to stage 1 to obtain the current plant's value function  $V_1^e(C_1)$  and repowering threshold  $C_1^e$  as follows:

$$V_1^e(C_1) = A_1^e C_1^{\beta_1} - C_1 K_1 / (\rho - \alpha_{C_1}) + P_1 K_1 / \rho \quad (19)$$

$$C_1^e = \frac{[P_1 K_1 / \rho - V_2^e(C_2^0) + W_1^r + I_2](\rho - \alpha_{C_1}) \beta_1}{(\beta_1 - 1) K_1} \quad (20)$$

$$A_1^e = \frac{K_1}{(\rho - \alpha_{C_1}) \beta_1 (C_1^e)^{\beta_1 - 1}} \quad (21)$$

#### 4. ANALYTICAL COMPARISON OF BOTH SCENARIOS

In this section we will analytically compare the optimal decision rules that we derived for both scenarios from the following perspectives: 1) optimal repowering/exit threshold values for the first-repowered plant in both scenarios, 2) optimal repowering threshold values for the current plant in both scenarios, and 3) plant's corresponding economic life.

To facilitate the comparison, we first assume as time goes by, the contracted selling price for future plants will increase, and the production size will also increase due to better design and technology, that is,  $P_1 < P_2 < P_3$ ,  $K_1 < K_2 < K_3$ . We also assume that for each plant, the O&M cost will follow exactly the same evolution, that is,  $C_1^0 = C_2^0 = C_3^0$ ,  $\alpha_{C_1} = \alpha_{C_2} = \alpha_{C_3}$ ,  $\sigma_{C_1} = \sigma_{C_2} = \sigma_{C_3}$ , and hence  $\beta_1 = \beta_2 = \beta_3$ .

Moreover, we further assume all repowering projects, no matter when they get built, are profitable to the producer for planning purposes, that is,  $V_3^e(C_3^0) - W_2^r - I_3 > 0$ ,  $V_2^b(C_2^0) - W_1^r - I_2 > 0$  and  $V_2^e(C_2^0) - W_1^r - I_2 > 0$ , which can be justified in the sense that repowering would not have become an option if it had a negative return.

##### 4.1 Comparison on the First-repowered Plant

We first compare the repowering/exit thresholds of the first-repowered plant  $C_2^{b/e}$  in both scenarios. Recalling (8) and (17) we have  $C_2^b > C_2^e$  holds if and only if  $W_2 > -V_3^e(C_3^0) + W_2^r + I_3$ . Because  $V_3^e(C_3^0) - W_2^r - I_3$  is presumed to be positive,  $-V_3^e(C_3^0) + W_2^r + I_3 < 0 < W_2$ . Therefore the necessary and sufficient condition for  $C_2^b > C_2^e$  always holds, which proves that for the first-repowered plant, the repowering threshold of the baseline scenario is greater than the exit threshold of the extension. This can be intuitively interpreted as the producer tends to be more tolerant to the loss from the operating asset when the available option has a lower expected return.

We also consider the expected economic life of the plant in both scenarios, which can be derived by using Ito's lemma and expressed as follows:

$$T_2^b = (\ln C_2^b - \ln C_2^0) / (\alpha_{C_2} - 1/2 \sigma_{C_2}^2) \quad (\text{in the baseline})$$

$$T_2^e = (\ln C_2^e - \ln C_2^0) / (\alpha_{C_2} - 1/2 \sigma_{C_2}^2) \quad (\text{in the extension})$$

From what we derived before it is easy to see that  $T_2^b > T_2^e$ , the first-repowered

plant is expected to have a longer economic life in the baseline scenario. Hereby we make a mathematical analogy that in our problem, a longer planning horizon with more cycles of repowering will result in a longer expected economic life for a single repowered plant.

#### 4.2 Comparison on the Current Plant

In this sub-section, we compare the repowering thresholds of the current plant  $C_1^{b/e}$  in both scenarios. Recalling (11) and (20) we have  $C_1^b > C_1^e$  holds if and only if  $V_2^b(C_2^0) < V_2^e(C_2^0)$ . From (7), (9), (16) and (18) we also have that given the same  $C_2^0$ ,  $C_2^b > C_2^e$  is the necessary and sufficient condition of  $V_2^b(C_2^0) < V_2^e(C_2^0)$ . From the results we derived in sub-section 4.1,  $C_2^b > C_2^e$  always hold under our assumptions, therefore  $C_1^b > C_1^e$ . This implies that the current plant's repowering threshold increases when the producer selects a longer planning horizon with multiple repowering cycles.

Analogous to 4.1, we also express the expected remaining life of the current plant in the term of  $C_1^{b/e}$  defining  $C_1^c$  as the current observed O&M cost of the current plant:

$$\begin{aligned} T_1^b &= (\ln C_1^b - \ln C_1^c) / (\alpha_{c_1} - 1/2 \sigma_{c_1}^2) && \text{(in the baseline)} \\ T_1^e &= (\ln C_1^e - \ln C_1^c) / (\alpha_{c_1} - 1/2 \sigma_{c_1}^2) && \text{(in the extension)} \end{aligned}$$

It is easy to see that  $T_1^b > T_1^e$ , the current plant is expected to have a longer remaining life in the baseline scenario. A similar mathematical analogy can be observed for the current plant that as the current plant will have a longer remaining life when the planning horizon consists of more cycles of repowering.

### 5. CONCLUDING REMARKS

In this paper we mathematically modeled how a rational renewable power producer make repowering decisions regarding his current aging plant when the O&M cost is represented by a GBM process. The forecast-horizon theory has been used to limit our study scope into two scenarios, where the baseline scenario contains only one cycle of repowering and the extension contains two. Using a real options approach, we solved for the O&M cost thresholds above which the decisions of repowering/exit would be made, and compared the results of the two scenarios analytically.

Through our comparison, we observed that, a longer planning horizon with more cycles of repowering leads to a longer expected economic life for each plant (no matter it is the currently operating one or a projected-to-be-repowered one). This implies that a long planning horizon might delays the repowering decision making for the current plant, which is unfavorable to the current renewable power generation market where a huge amount of obsolete generation units need to be repowered.

This study can be viewed as an initial exploration to the effect of planning horizon selection on the repowering problem of renewable power industry. As for future research, some of our simplifying assumption might worth to be relaxed. In addition, it is also highly desirable to link our study to those sophisticated programs of incentives and fees such as Production Tax Credit (PTC) and Renewable Portfolio Standards (RPS's), in order to investigate how the governmental polies will affect the

producers' behaviors in repowering.

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## Efficiency and Bid Rigging in Simultaneous Procurement Auctions under Oligopoly

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### ABSTRACT

The purpose of the paper is to present a conceptual argumentation on the causes and consequences of uncertainty, bid pricing and potential bid rigging in a specific situation, where simultaneous bids for similar services or goods are asked from oligopolists. Splitting of large procurements into several smaller ones has been propagated as a way of enhancing competition. It appears however that calling for similar bids simultaneously might give extra motivation for collusion among bidders, while arranging several consecutive procurement auctions could be a better alternative. Furthermore, bid rigging remains more complicated to detect under simultaneous procurement auctions due to a larger degree of uncertainty for bidders, which supports relatively high bid prices that may actually be collusive. Moreover, simultaneous procurement auctions may result in a relatively high cost of supply due to the (seemingly) larger risks involved for bidders.

Keywords: bid rigging, collusion, oligopoly, simultaneous procurement auctions  
JEL classification: D44, H57

### 1. INTRODUCTION

Procurement of goods and services through the invitation of competitive bids remains a widely used practice for both governments and companies. Bid rigging refers to a price setting or market allocation agreement among two or more competitors in which (better chances of) winning of the bid are channelled to one of the suppliers, while for the sake of appearance other competitors usually also present a bid. Evidently, when bid rigging impacts a procurement, it has the potential to lead to suboptimal prices and thus cause a loss for the purchaser. Moreover, such practices distort competition and may pose threats to the sustainability of both honest competitors as well as procurers. For these reasons bid rigging is illegal in many countries.

Different aims may motivate suppliers to engage in bid rigging. In the easiest case, the parties involved in bid rigging may wish to achieve a relatively high winning bid price so that only one of the parties submits a bid while others agree to suppress their bids, usually for some reward. In some cases the reward can be in the form of the bid suppressing party being employed as sub-contractor to the successful bidder (to provide part of the services or to supply goods to the winner). In a more complicated case, the conspirators may agree to submit cover bids that are intended not to be successful so that the agreed upon supplier can win the bid. Some other bid rigging practices include bid rotation, whereby the competitors agree upon a certain winning pattern among them over the course of many consecutive bids, and market allocation, in the case of which the competitors have divided the market so that a certain supplier would win bids of a particular type or that some bidders win in certain geographic territories or among certain customers. The common feature of all these and other bid rigging practices is that the bidders make such an agreement that they would not have



to truly compete with the others.

Bid rigging often remains difficult to detect and sufficient evidence for legal proceedings hard to gather. In many cases, detecting collusion represents a purely legal investigation into agreements and other forms of communication between suspected bidders. Several authors have however searched for quantitative bid rigging detection techniques, including Porter and Zona (1993), Bayari and Ye (2003), and Porter (2005), among others. Summary overview of related literature is provided in Section 2.

This paper seeks to look into the special case of bid rigging in simultaneous calls for bids under oligopoly, a case which has not received much attention in literature although frequent in practice. Simultaneous procurement auctions represent a situation where the party seeking for a supplier or suppliers calls for several bids for similar goods or services simultaneously, as opposed to asking for such bids consecutively one by one. Calling for simultaneous bids seems to be a common practice in European Union member states (incl. in public sector procurement), e.g. in the procurement of similar services for different geographical areas or different organisational units. The main reason for making such simultaneous calls for bids seems to be the regular (e.g. annual) nature of procurement mainly driven by the financial (budgeting) cycle in the procuring organisation. Also, it has been advocated (refer to e.g. OECD, 2009) that splitting large scale procurements into smaller parts may attract additional competition.

What makes this type of procurement special is that competitors often face capacity constraints and they are subject to economies of scale considerations. The total procurement volume of simultaneous calls for bids may exceed the total capacity an individual supplier is ready to cover. In parallel to profit maximisation, the bidders need to consider an additional condition in their bidding strategy – how to make the bids so that in the case of winning their total capacity constraints and breakpoint levels would be properly addressed, i.e. that the bid price would at minimum cover the costs, including the cost of potential outsourcing of goods or services in case capacity constraints are faced. The cost covering aspect is addressed in this paper, while profit maximisation strategies remain outside the scope.

The smaller the number of competitors in the business, the easier for them to establish an efficient cartel. Oligopolistic markets may be particularly vulnerable due to the combined effect of small number of market participants as well as capacity constraints of individual companies. That is why the paper is focussed on bid rigging in simultaneous procurement auctions under oligopoly. Section 3 of the paper presents a conceptual argumentation for understanding the drivers of costs, bid prices and bid rigging under such circumstances, and Section 4 provides a discussion of the results.

## **2. ITERATURE**

Several authors have sought to provide a theoretical platform for understanding efficiency of procurement under oligopoly and related bid rigging considerations. Feuerstein (2005) provides a detailed overview of related studies. In one of the first papers on these matters, Friedman (1971) considers a Cournot oligopoly, and demonstrates that joint profit maximisation strategies work better than individual ones.

Several aspects brought out in later theoretical studies demonstrate that

oligopolies are particularly vulnerable to collusion. Shapiro (1989), among others, explains that overall, bid rigging is more likely to occur under a small number of suppliers, whereas a large number of suppliers would make a (long term) cartel difficult to coordinate. Selten (1973) and Philips (1995) find that if few competitors (are likely to) enter a market due to entry barriers and existing market participants are thus protected from the competitive pressure posed by any new entrants, there is a higher risk of (long term) collusion to occur. New entrants and any other changes on supply side (e.g. mergers, as discussed by Compte et al., 2002) are believed to make any ongoing bid rigging agreements vulnerable, while stability on the market increases the risk of collusion.

Rotemberg and Saloner (1986) and Bagwell and Staiger (1997), among other authors, look into the effects of economic fluctuations on collusion. In general, incentives for collusion are found to be higher during economic downturns, while competitors seek to regain losses with gains from bid rigging and other forms of collusion.

It has been argued by several authors (please refer to Scherer and Ross, 1990 for a detailed overview) that the more homogeneous the procured goods or services are, the larger the possibilities for collusion among competitors. Similarity in products and cost structures makes competitors' profit maximisation strategies and procurer's preferences relatively easy to comprehend, and thus arrive at (long term) agreements on mutually beneficial cooperation.

As regards the effect of capacity constraints on collusion, there are mixed results in theoretical literature. Brock and Scheinkman (1985) find the role of capacity constraints on potential collusion to be different for large and small bidders, with the latter being less exposed to the adverse effects of defecting from cartel agreements. Davidson and Deneckere (1990) demonstrate that increases in collusively agreed prices are positively related to increases in the level of (excess) capacity, as market players use the additional resources gained from collusion to expand their capacity with the purpose of earning even more (collusive) profits.

While most of the above theoretical studies address one-off auctions, Jofre-Bonet and Pesendorfer (2003) suggest a methodology for the estimation of the outcomes of repeated procurement auctions with capacity constraints. The Jofre-Bonet and Pesendorfer (2003) study is important in the context of the current paper, as they model consecutive procurement auctions, which is the most likely alternative to simultaneous procurement auctions.

Aoyagi (2003) studies repeated sales auctions, finding that collaboration over multiple consecutive auctions gives a better payoff for bidders in comparison to collusion over one auction. However, his paper does not address the effects of simultaneous nor reverse (i.e. procurement) auctions. Several authors have studied simultaneous auctions, e.g. Gunay and Meng (2010), Brusco and Lopomo (2009), and Engelbrecht-Wiggans and Kahn (2005), but from the sales auction perspective and overall in the context of simultaneous ascending auctions, which differ in principle from simultaneous sealed-bid purchase auctions. Lundberg (2005) seems to be the only author to date to discuss simultaneous procurement auctions. She presents an interesting bidding strategy model, showing that such a purchase auction type motivates aggressive (i.e. high priced) bidding, and provides results of its empirical testing. Her paper does not cover bid rigging issues however.

Previous empirical studies have looked into the efficiency of procurement auctions and bid rigging on the example of different cases. For example, Flambard and Perrigne (2006) have studied the procurement of snow removal services in Canada, finding among other results that differences in the distance of a particular service provider from the area to be serviced, causes differences in suppliers' bidding strategies. Pesendorfer (2000) seeks to detect potential collusion in school milk procurement auctions in the USA. He shows that the informational asymmetry among market participants as a result of a cartel tends to lead to a (pre-selected) cartel member being the successful bidder, whereas non-cartel market players are less likely to achieve success in their less informed position. As an example of more recent works, Chotibhongs and Arditi (2012) use cost structure and bid distribution test in detecting potential bid rigging in construction sector on US data.

### **3. CONCEPTUAL ARGUMENTATION**

This section seeks to present a conceptual argumentation for understanding the specific features of simultaneous procurement auctions and its effects on potential bid rigging and outcomes of the auction. The conceptual framework builds on the comparison of simultaneous and consecutive procurement auctions. We do not seek to provide a comprehensive model of bidders' behaviour (i.e. profit maximisation and collusion strategies), but focus on certain characteristic features of simultaneous procurement auctions in view of bidders' capacity constraints and costs.

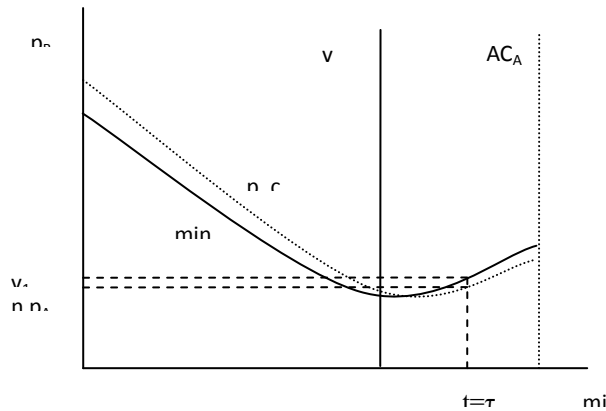
#### **3.1. Simultaneous auctions, procurement volume and competition**

First, it is important to understand the effect of simultaneous auctions on the number of interested bidders. As pointed out in Section 2, the smaller the number of bidders, the higher the risk of bid rigging or other form of collusion tends to be.

Assuming market participants (i.e. potential bidders) to be of different size, they would face different levels of capacity constraints. It is evident that the higher the procurement volume, the lower the number of bidders who would be able to submit a (potentially successful) bid, while those bidders for whom the procurement volume remains above their capacity constraint would refrain from bidding. In this sense, it appears reasonable to split larger procurements into smaller parts in order to enhance competition (as suggested for example in OECD, 2009).

A potential counter argument would be that suppliers constrained with limited capacity could outsource additional resources to be able to bid for larger procurements. Assuming an oligopoly, the potential outsourcers would be other market players. It would be unlikely under market participants' profit maximising behaviour that smaller market players would be successful with bids where resources outsourced from competitors would be used, while even a marginal mark up would make their bid unattractive compared to the bid of the competitor whose resources would be potentially outsourced. For these reasons, outsourcing of additional resources by smaller suppliers does not seem to have any effect on the bid results in practice, if other features of the bidders (including access to information) are similar.

**Figure 1.** Capacity constraints and competitiveness of price



Source: Author's illustration

To illustrate (see Figure 1), assume companies A and B on the market with different capacity constraints  $CC_A$  and  $CC_B$ , respectively. Also, assume increasing returns to scale (at lower production volumes) and a no-losses bidding strategy (i.e. no dumping or conflict of interest issues between management and owners). Increasing returns to scale may be achieved up to the capacity constraint point (or up to some production level lower than the capacity constraint point). There would be an increase in average cost (AC) beyond the capacity constraint level due to the higher cost of outsourced services in comparison to own resources. It can be noted how this increase in AC would have an adverse effect on the minimum acceptable price that company A could bid (e.g. for procurement volume  $v_i$ ) in order to avoid losses. Evidently, the higher the volume  $v$ , the larger the adverse effect is. This means that the higher the volume of a procurement, the lower the number of competitors who could place a successful bid.

However, if a large procurement volume would restrain such bidders who would be anyway unsuccessful due to their higher cost level and higher bid price, there is no harm done neither for the procurer nor for fair competition. As a consequence, a too large volume of an individual procurement would have an adverse impact on competition and on the cost for the procurer only if it constrains a relatively small market participant with a low cost level (as company A on Figure 1). Although such cases may be possible in practice (especially for niche products), economies of scale would suggest that overall large market players would be able to operate with a lower average cost and they would thus be able to bid lower prices.

Therefore the argument that large procurement volumes (as opposed to simultaneous smaller procurements) hinder competition appears to have limited relevance in practice, as long as there is competition among bidders and such competition is fair (i.e. non-collusive). Ironically, it appears that under the above conditions, the role of small market players is to act as “watchdogs” for potential collusion rather than having any good chances of winning.

### 3.2. Simultaneous auctions and bid prices

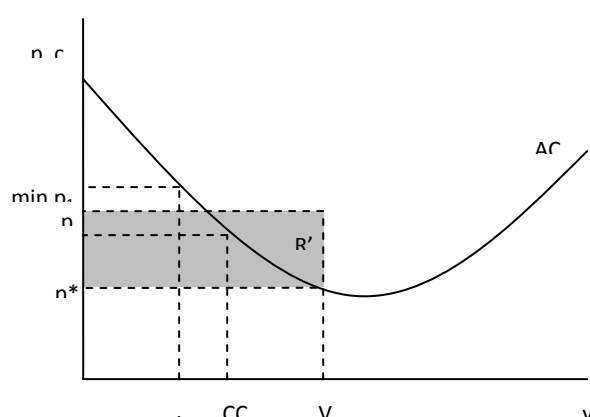
Second, the effects of a simultaneous arrangement of auctions on bid prices need to be understood. The most important difference under simultaneous bidding is that the use of combinatorial bidding is excluded, i.e. a bid under a simultaneous auction cannot be conditional on the outcome of any other of the simultaneous auctions or any other of the simultaneous bids. As a consequence, as opposed to consecutive bidding, bids submitted simultaneously are independent of each other.

Such a situation may give a false impression of being counter-collusive (meaning that the smaller the possibility to bid in consideration of other bids or previous auctions, the smaller the chances for bid rigging or other collusion among the bidders may seem to be). The fact that the bids are submitted independently of each other does not mean that the consequences of suppression of combinatorial bidding would not be considered when submitting the simultaneous bids. We will focus on the ability of a bidder to cover costs (i.e. minimum bid price) under such circumstances.

It is very important to note that simultaneous auctions create uncertainty for bidders about the possibility to achieve economies of scale. It is evident that costs would be a key input for a bidder when calculating what the profit maximising bid should be. Leaving aside any special circumstances (e.g. dumping or conflict of interest considerations), bidding below cost would not be a rational behaviour as losses would be generated.

Assume for simplicity that the goods or services procured under the simultaneous auctions are homogenous. Under uncertainty about the outcome of any of the simultaneous auctions, it would therefore not be rational for a bidder to submit any of the bids below the price that equals to the total cost of supplying the procured goods or services in the volume called for in each individual auction. In the opposite case, if the bidder would be successful with e.g. one bid only, supplying under the procurement would generate losses for the bidder.

**Figure 2.** Economies of scale and minimum bid prices under simultaneous auctions



Source: Author's illustration

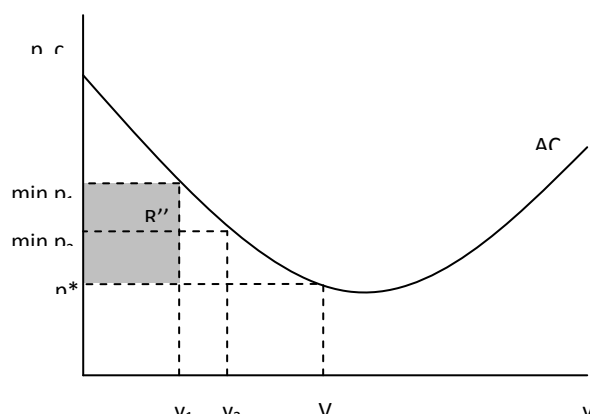
This is illustrated on Figure 2. Given the average cost curve  $AC$ , which represents economies of scale conditional on volume, it would not be rational to bid below the level of  $AC$  under any volume. If the volume procured under one of the auctions would be  $v_1$ , it would be rational to bid a price  $p_1$  or above. If the volume procured under another of the simultaneous auctions is  $v_2$ , it would be rational to bid a price of at least  $p_2$ . Should the bidder win one of these auctions, the supplying would still generate some profits, or at least no losses.

However, if the bidder would win more than one bid, the total volume of supplies would enable him to earn a total markup in excess of the market return for supplying the goods or services in such a volume. Looking at Figure 2, should the bidder win both of the auctions, the total volume supplied would be  $V$  ( $V = v_1 + v_2$ ). The break even point corresponding to  $V$  would be  $p^*$ , but as the bidder has been successful with both of the individual bids, it can earn an average price of  $p$  or above, meaning an above the market profit of at least  $R' = (p - p^*)V$  (grey area on Figure 2). It is evident that the same pattern would repeat if there would be more than two auctions arranged simultaneously. The amount of the extra profit  $R'$  as well as the maximum total volume up to which such additional returns are available depend on the properties of the  $AC$  curve and could be calculated easily if the parameters of the  $AC$  curve of a specific company are known. More detailed formalised analysis would not add much to the discussion at this point however.

Normally, bidding at above market rates would diminish the chances of being successful with the bid(s) – the larger the markup the less likely the bid will win. However, if all the competitors would follow a bidding strategy of avoiding losses, bids entailing such above market returns could be easily successful. In other words, if the profit maximising bidders would compete, as usual, based on the trade off between the benefits of bidding higher (meaning a higher profit, if successful) against the related costs (being successful with lower probability), and none would tolerate losses, there would be possibilities for successful bidders to earn above the market profits. This is a very important warning signal about the reasonability of organising simultaneous procurement auctions (for homogenous goods or services).

It is clear, that under such circumstances information about competitors' bidding strategies becomes especially valuable for each bidder. We will discuss these matters in Section 3.4.

**Figure 3.** Economies of scale and minimum bid prices under consecutive auctions



Source: Author's illustration

It is also interesting to note the differences in bid prices under simultaneous, consecutive and unsplit procurement auctions, if bidders would follow the above no-losses bidding strategy. Looking at Figure 3, if auction 2 would be arranged after the outcome of auction 1 becomes known to the bidders, bid prices for auction 2 would be dependent on success in auction 1. Should the bidder be successful in auction 1 (with bid price  $p_1$ ), it would need to bid a price  $p^*$  or above in auction 2 in order to guarantee that no losses would be made. This means that in the case of consecutive auctions, a successful bidder could earn above the market profits in

auction 1 only, totalling  $R'' = (p_1 - p^*)v_1$ . It is evident that the same pattern would repeat if there would be more than two auctions arranged consecutively. It is interesting to observe that the bidder which wins the first bid would have a competitive advantage over other bidders in the following auctions, as it can enjoy the benefits from economies of scale. This may lead to wins in all the consecutive auctions if other bidders would not change their bidding strategy. In this sense, it would be important for any bidder to be successful in the first bid, which appears to make the order of bids an important factor. The related bidding strategies remain an interesting area of further study.

In any case,  $R'' < R'$ , meaning that a consecutive arrangement of bids would result in a lower procurement cost for the purchaser in comparison to a simultaneous arrangement of bids. The difference comes from the cost of uncertainty for the bidders. As creating such uncertainty does not appear to add any value for the procurer, its avoidance by means of organising consecutive rather than simultaneous bids appears to lead to a lower procurement cost. The party to benefit from that uncertainty is a bidder who will eventually win at least two of the simultaneous bids.

If the auction would be arranged in an unsplit manner, i.e. the bids for the entire procurement volume would be called together, bidders would place their bids in correspondence with the total volume procured. On the example illustrated on Figures 2 and 3, the bidder would act rationally if it would bid at least price  $p^*$  for total procurement volume  $V$ . No above market profits emerging just from the manner of organising the procurement would be available in this case. This is due to the lack of the uncertainty described above. However, as discussed in Section 3.1., the potentially lower number of bidders may have an adverse impact on bid prices as well as potentially motivate collusion. This depends on the circumstances surrounding a specific bid, including capacity constraints of potential bidders.

### **3.3. Simultaneous auctions and capacity constraints**

Third, we need to understand the effect of capacity constraints under simultaneous procurement auctions (further to the aspects highlighted in Section 3.1.). In the case of non-simultaneous (i.e. consecutive) auctions, a bidder would consider that if it would be successful in the auction, it would have less capacity available to participate at any future auctions (until the completion of the procurement won). The cheapest bidder would be successful in the first auction. If the cheapest bidder would be capacity constrained, it might not be able to participate at some future bids. This means that some more expensive bids would have chances of winning such future auctions. Being successful in future auctions may therefore enable the bidder to earn higher profits than in the current auction. The less capacity the bidder has available when a project is being bid, the greater the likelihood that winning this bid will preclude it from winning a later, more profitable procurement auction. These circumstances may lead to complex profit maximising bidding strategies, which we will not discuss in this paper, while we will focus on the cost covering aspect, adherence to which remains a necessary condition for any bidding strategies.

As explained in Section 3.2., bids under simultaneous procurement auctions cannot be conditional on the outcome of any other of the simultaneous auctions or any other of the simultaneous bids. This means that in addition to the uncertainties discussed in the previous section, when submitting a bid, a capacity constrained bidder would not know about competition in any of the simultaneous auctions, i.e. which bidders would submit bids for which auctions and at what prices.

Assume every bidder to use bidding strategies that are a Bayes-Nash equilibrium, so that they aim to maximise their expected profits, while considering all the available information about the other (potential) bidders. We can also assume, similarly to Bajari and Ye (2003), that the costs of bidder for executing similar projects are asymmetrical (i.e. different *AC* curves), and that the bidders are aware of (some of) these differences in costs. For example, the reason for asymmetrical costs may be related to the bidders different location, resulting in different transportation costs. As a consequence, capacity constrained bidders would expectedly bid for these auctions where they have a competitive advantage over some or all bidders, while they cannot bid in all auctions.

On the one hand, under simultaneous auctions, capacity constrained bidders appear to be motivated to submit bids for these auctions where their (cost structure driven) chances of winning are highest. This should coincide with the auctioneer's objective of achieving best possible price in each auction.

On the other hand, the simultaneous bid arrangement is fundamentally different from a consecutive auctions setting (as discussed above) and there would expectedly be different bids submitted under these auction types. In the case of consecutive auctions bid prices would primarily depend on the order of bids and on the outcomes of previous bids (i.e. information equally available to all bidders), while in the case of simultaneous bids, the bid prices would be primarily driven on information about other bidders (i.e. a potentially asymmetric information) in order to identify potential competitive advantages.

If capacity constrained bidders have rather similar cost structures, i.e. limited asymmetries, it gives extra motivation to engage in bid rigging. Similar cost structures would mean similar profit maximising strategies making it easier to coordinate any cartel agreements.

### **3.4. Simultaneous auctions and bid rigging**

As discussed in Section 3.2., under simultaneous procurement auctions, information about competitors' bidding strategies becomes especially valuable for each bidder in order to address the economies of scale considerations. The motivation for bidders to engage in bid rigging would raise from the wish to be (more) certain about the volume of procurement that would be allocated to each individual bidder, in order to establish individual break even points. This would help the bidders significantly in designing profit maximising bidding strategies, the situation being an exemplification of the Edgeworth paradox (in its original assuming linear cost functions though) where two players cannot reach equilibrium with pure strategies, i.e. each bidding an unconditional price independently.

Assume two bidders, A and B, bid for a homogenous product on the basis of price competition in simultaneous procurement auctions. Each company faces capacity constraints, in that on its own neither A nor B can provide the total volume procured (even at its zero-profit price), but together they could (and both earn a profit). Both A and B charging zero-profit prices would not be an equilibrium (unlike in the case of the Bertrand paradox), since either company could raise its price and generate profits. Nor is the situation where one company charges less than the other an equilibrium, since the lower price company could profitably increase its bid towards the higher price company's bid. Nor is the situation where both companies bid the same profit price, since either company could lower its price marginally, and profitably capture more of the total procurement volume. The paradox has its roots in the ambiguity,



which characterises a simultaneous procurement auction.

If the bidders would co-operate and engage in bid rigging, it appears that all the conspirators would be better off, as long as each of them would be allocated more than one of the procurement slots auctioned. If any of the bidders would know that it would be allocated at least two slots, it would gain a competitive advantage over a non-cartel-member so that it could bid prices (slightly) below the average cost level that corresponds to the volume of an individual slot of the procurement, and earn a profit.

Moreover, if such a cartel would be formed where every participant is envisaged to win at least two procurement slots, the bids cartel members could securely submit better priced bids than any non-collusive bidders, provided there are no significant cost asymmetries with the bidders outside the cartel. Namely, if a bidder would know that it would win more than one slot, such a bid price for each slot that would guarantee profitability would be lower than the price that such a bidder would need to bid who has no information about the allocation of procurement slots. The collusive bidder would bid marginally below the non-collusive bidder's expected bid price, and secure a success. At the same time the bid to guarantee success would enable the corrupt bidder to earn (potentially large) profits above the market markup level.

It follows from the above argumentation that in case no capacity constraints exist, two would be a sufficient number of bidders to form an efficient cartel. In case of capacity constraints the number of members should be sufficient to cover the entire procurement volume in all the simultaneously organised auctions.

However, a small number of cartel members may pose a threat that another cartel or cartels could be formed. In this sense, a larger cartel could be more efficient. The optimal number of cartel members depends on the cost structures, capacity constraints and the total number of bidders. If the number of market participants is large, such a cartel would be difficult to operate efficiently. That is why the risk mostly concerns oligopolies.

It is also important to note that bid rigging would remain more complicated to detect under simultaneous procurement auctions. It appears from Section 3.2. that it would be natural to expect bidders to bid prices which correspond to the average cost levels at volumes of the individual auctions. This gives a logical justification for any relatively high bid prices. However, such prices may actually be collusive. It would be difficult to distinguish the bids submitted by honest competitors in light of the uncertainties surrounding the volume of procurement to be allocated to them from fraudulent bids that reflect the price levels carefully calculated in consideration of the market allocation agreements between conspirators.

#### **4. DISCUSSION**

As suggested by game theory and as discussed e.g. by Bajari and Summers (2002), cartels are unstable by their nature, as every individual cartel member would be better off by breaking the cartel agreement and bidding for a larger number of auctions and/or at a lower price than agreed. In case all of the cartel members would break the agreement, all would be worse off however. It follows from the argumentation in Section 3.4. that in the case of simultaneous procurement auctions, the motivation of bidders to cooperate is particularly strong, especially under oligopoly. Moreover, the duration of a cartel has limited significance, as the entire procurement volume is auctioned simultaneously. However, for the same reasons (i.e. difficulties in

monitoring whether the cartel agreement is being adhered to by all members) the chances of one or more of the parties breaking the cartel agreement are higher, but this does not necessarily mean that auction results are as favourable to the auctioneer as under fair competition.

The motivation of bidders to collude is also dependant on the way how the total procurement volume is split into individual auctions. If the splitting does not follow the patterns in bidders' competitive advantages, their uncertainties about the behaviour of other bidders and of the auction outcome are bigger, and thus the motivation to engage in bid rigging would be higher. Also, if the individual auctions are of (more or less) identical volumes, the risks of bid rigging are expectedly higher, while it makes the allocation of parts of the procurement easier for bidders.

We have assumed so far that the simultaneous bids are organised as a sealed-bid procurement auction, meaning that when submitting their bids individual competitors are not aware of the others' bids. In practice, this assumption may not hold if another type of fraudulent activity takes place and one or more of the bidders become aware of the bids submitted by others before submitting their own bids. This would result in informational asymmetries among bidders, giving the one(s) possessing information about other's behaviour immense advantages (refer to Hendricks and Porter, 1988; and Hendricks et al., 1994). If procurement is conducted by way of simultaneous auctions, the adverse effects of potential fraudulent informational asymmetries would be more serious than in the case of consecutive auctions, where tests of potential informational asymmetries could be conducted after each auction.

For a positive end note, the total volume of a simultaneous procurement auction is larger than the individual volumes of consecutive auctions. As a consequence, breaking a cartel agreement in order to enjoy the relatively large short-term gains from cheating (by being successful on more auctions than agreed) is more attractive than in the case of consecutive auctions where the short-term gain would be smaller.

## **5. CONCLUSION**

Simultaneous procurement auctions represent a situation where the party seeking for a supplier or suppliers calls for several bids for similar goods or services simultaneously, as opposed to asking for such bids consecutively one by one. Calling for simultaneous bids seems to be a common practice in European Union member states (incl. in public sector procurement), e.g. in the procurement of similar services for different geographical areas or different organisational units. It has been advocated (refer to e.g. OECD, 2009) that splitting large scale procurements into smaller parts may attract additional competition.

The argument that large procurement volumes (as opposed to simultaneous smaller procurements) hinder competition appears to have limited relevance in practice, as long as there is competition among bidders and such competition is fair (i.e. non-collusive). Ironically, it appears that the role of small market players is to act as “watchdogs” for potential collusion rather than having any good chances of winning.

Simultaneous procurement auctions appear to create uncertainty for bidders about the possibility to achieve economies of scale. This uncertainty is reflected in bid prices and leads to extra profits for successful bidders. Under consecutive or unsplit procurement auctions such extra profits for the successful bidder and thus higher

procurement cost for the purchaser could be avoided, given that fair competition exists among bidders.

It appears from the conceptual argumentation that calling for similar bids simultaneously might give extra motivation for collusion among bidders, while arranging several consecutive procurement auctions could be a better alternative. Furthermore, bid rigging remains more complicated to detect under simultaneous procurement auctions due to a larger degree of uncertainty for bidders, which supports relatively high bid prices that may actually be collusive.

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# Business Management II

08:45-10:15, December 16, 2012 (Room 4)

**Session Chair:** *Prof. Junaidah Hashim*

**471: Spirituality, Integrity and Counterproductive Work Behaviours among Employees of Selected Islamic Organisations in Malaysia**

*Junaidah Hashim*

*International Islamic University*

**1250: The Influence Of Resource Conditions Between Firm And Partners On Firm Performance In Alliance Portfolios**

*Seong-Young Kim*

*ESC Rennes School of Business*

**1656: The Effects of Hard and Soft Factors on Product and Process Innovation Performance in the Thailand Context**

*Siriphan Tantivivathanaphand*

*Ramkhamhaeng University*

*Rapepun Piriyakul*

*Ramkhamhaeng University*

*Napaporn Khatanapha*

*Ramkhamhaeng University*

*Norapol Chinuntdej*

*Ramkhamhaeng University*

**1663: Evaluating e-Business Performance using Fuzzy PROMETHEE II Method**

*Kevin Kam Fung Yuen*

*Xi'an Jiaotong-Liverpool University*

*W. K. Chong*

*Xi'an Jiaotong-Liverpool University*

**1794: An Investigation into the Factors Influencing Competitiveness of Ready-Made Garment (RMG) Supply Chain- The Experience from Bangladesh**

*Md. Nuruzzaman*

*Curtin University*

*Mohammed Quaddus*

*Curtin University*

*Ananda Jeeva*

*Curtin University*

## **Spirituality, Integrity and Counterproductive Work Behaviours among Employees of Selected Islamic Organisations in Malaysia**

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### **ABSTRACT**

This research examines the mediating effect of integrity on spirituality and organisation performance. A total of 1203 employees responded to the survey. Measures used were Human Spirituality Scale (Wheat, 1991), workplace spirituality (Petchsawang and Duchon, 2009), counterproductive work behaviour (Gruys and Sackett, 2003), and the Substance, Production loss, and Interpersonal Problem Inventory (SPI). The findings failed to support the hypothesised model.

Keywords: Spirituality, Integrity, Islam, Counterproductive Work Behaviour

## **1. INTRODUCTION**

### **1.1 Background of the Study**

Over the last decade, there is a steady increase of interest in spirituality at work issues among management researchers and practitioners (Giacalone and Jurkiewicz, 2003a; Karakas, 2010). The growing interest in spirituality is evident in corporations and business world as well. Although the literature and interest on spirituality at work is growing rapidly; there is confusion around how spirituality influences organisational performance. Furthermore, most of the previous studies examined the effects of spirituality on organisational performance not in term of profitability or productivity increase; but on some indicators such as spirituality enhances employee well being, spirituality provides employees a sense of purpose and meaning at work, and spirituality provides employees a sense of interconnectedness and community; and these in turn support organisational performance. There are some authors who claimed that there was a positive and causal relationship between spirituality and productivity (Enander, 2000; Thompson, 2000), but the validity of those claims were questionable since they were either theoretical or lacked supporting data (Valasek, 2009).

Practitioners are seeking to understand the topic of spirituality at work and business leaders in general are desirous to leverage spirituality as a means to promote ethical compliance and improve workplace behaviours (Smith, 2006). Workplace behaviours such as counterproductive work behaviour (CWB) have always been an issue for employers because of its widespread nature (Lanyon and Goodstein, 2004). CWB at work is clearly a major social and economic issue for both employers and society. The cost of CWB in terms of dollars and hour lost is virtually incalculable.

Personal attributes such as integrity has always been used to explain the counterproductive work behaviour. Integrity is the foundation of all true goodness and greatness. Hence, the concept of integrity has arisen often in discussions of spirituality (Arrizza, 2006). Integrity summons the courage for the spirituality expression at work. Integrity is not only the realm of ethical conduct but also an individual's sense of wholeness (Watson, 2001).

The objective of this research is to determine if and how spirituality affect integrity which in turn influences organisation performance. Organisation performance is measured in terms of the occurrence of CWB. While most employees spend their working time in ways which benefit the organisation, a substantial portion is involved in behaviours which are disruptive or damaging to the organisation, including theft, absenteeism, production slow-downs and sabotage.

This research is significant and unique. Organisational research tends to focus on the positive-normative behaviour of individuals such as increasing job satisfaction, organisational commitment, and production levels (Impelman, 2006). The darker side of organisational behaviour has not received the same attention. Researchers, however, are beginning to focus on these critical behaviours that leave a profound effect on the organisation and its individual members. Following recent trends in scientific literature, this research conceptualises spirituality and integrity as different constructs that measure different behaviours.

Spirituality has generally been assumed to have an effect on individual behaviour, but much of the research has failed to define variables in a theoretical context and thus much of the literature in this area was inconsistent and has merited suggestions that the relationship between spirituality and anti-social and deviant variables is spurious. Clearly, a theoretical model must be proposed when studying spirituality and behaviour outcomes. This will lead to more valid, consistent, and replicable measures of spirituality that provide a better understanding of the role of spiritual constructs in influencing individual behaviours. This research is intended, theoretically and quantitatively, to delineate the social mechanisms leading from spirituality to deviance behaviours, explaining the relationships between spirituality, integrity and deviance behaviours among employees.

## **2. THEORETICAL FRAMEWORK**

### **2.1 Related Theories**

Spillover theory (Wilensky, 1960) provides the theoretical foundation for this study. The spillover theory, as proposed by Wilensky (1960), asserts that individuals (employees) do not live compartmentalised lives. All beings are whole and integrated, which implies that attitudes, actions, beliefs, and activities in one domain "spill over" into another domain (p. 544). Wilensky (1960) further argued that failure to recognise the spillover effect would create fragmented individuals, organisations, and societies (pp. 544-545). Furthermore, Bruce and Plocha (1999) stated, "The ancient Celts believed that spirituality is not separated from who one is or what one does" (p. 326). Taken together, Bruce and Plocha (1999) and Wilensky (1960) statements support the idea that an individual's work and personal lives are naturally connected.

Organisational context is an important element of the present study. Cappelli and Sherer (1991) noted that context was the surrounding that illuminates a phenomenon. Johns (2006) depicts context as constraints on or opportunities for behaviour and

attitudes in organisations settings that can serve as a main effect or moderator of organisational behaviour at another level of analysis. Social learning theory (Bandura, 1973, 1977) and social exchange theory (Gould, 1979; Levinson, 1965) also support the role of context on individual behaviour. Social learning theory is based upon the proposition that individual behaviour is learned via a continuous reciprocal interaction with contextual influences. Social exchange theory describes the reciprocity that occurs between the context and the individual. The communality between these theories is the dependence on context to stimulate behavioural action.

## **2.2 Human Spirituality and Workplace Spirituality**

Tepper (2003) defines spirituality as the extent to which an individual is motivated to find sacred meaning and purpose to his or her existence. Mitroff and Denton (1999a, p. 83) describes spirituality as "the basic feeling of being connected with one's complete self, others, and the entire universe. If a single word best captures the meaning of spirituality and the vital role that it plays in people's lives, that word is interconnectedness." Spirituality does not necessarily have to be associated with a specific religion. Irrespective of the tradition or religion one draws upon, spirituality requires an individual willingness to explore oneself (Collins and Kakabadse, 2006).

Workplace spirituality as defined by Giacalone and Jurkiewicz (2003b) is a framework of organisational values evidenced in the culture that promotes employees' experience of transcendence through the work process, facilitating their sense of being connected to others in a way that provides feelings of completeness and joy. This view focuses on organisational aspects and through them seeks to induce employee experiences of spirituality at work. This approach focuses on several organisational features such as spiritual values, business plans and goals, and HRM practices that are supportive of these values. Based on extensive review of workplace spirituality definition, Petchsawang and Duchon (2009) identified five themes in spirituality at work: connection, compassion, mindfulness, meaningful work and transcendence.

Spirituality in the workplace may manifest itself in several ways, but at two different levels: the individual and the organisational. At the first level, the people involved are spiritual ones who may have had concerns about the adequacy of their workplace for their spiritual life even before accepting employment. At the second level, the organisation emphasises spirituality in order to improve productivity. They try to connect faith and work ethics (Garcia-Zamar, 2003). Human spirituality encompasses the individual values brought to the workplace (Kolodinsky *et al.*, 2008).

Some researchers argue that spirituality can be used to improve organisational performance and spirituality research should demonstrate spirituality's links with productivity and profitability (Ashmos and Duchon, 2000; Bierly *et al.*, 2000; Delbecq, 1999; Fry, 2005; Garcia-Zamor, 2003; Giacalone and Jurkiewicz, 2003; Giacalone *et al.*, 2005; Korac-Kakabadse and Korac-Kakabadse, 1997; Mitroff and Denton, 1999b). Additional research reveals that organisations that have voluntary spirituality programmes have had higher profits and success (Dehler and Welsh, 1994; Konz and Ryan, 1999; Mitroff and Denton, 1999b; Turner, 1999). There is little evidence of an interaction between personal spiritual values and organisational spiritual values for the workers consequence examined in their study.

## **2.3 Spirituality and Integrity**

To what extent if any does spirituality influence integrity? How integrity in turn influences CWB? According to Arrizza (2006) the word integrity includes words



such as honesty, soundness and wholeness. Honesty basically refers to being truthful to one's self and others about everything including cheating, deceiving, and stealing. Soundness refers to the rightness or correctness on one's position. Wholeness refers to a sense of completeness. Arrizza (2006) further defined being spiritual is essentially the same as being in integrity. In addition, Miles *et al.* (2005) asserted that spirituality is linked to good moral habits, virtue, honesty, loyalty, trustworthiness and integrity among its practitioners.

Bird (2006), argued that certain situation will determine whether an individual is likely to engage in CWB or act without integrity. For example, an individual might never consider stealing from a relative or friend, but contemplate theft from the workplace, if given the right opportunity. Mumford *et al.* (2001) argued integrity is to be a function of certain characteristics possessed by an individual. As such, personality traits are also relevant factors in CWB, and an entire integrity test industry has grown around the idea that personality tests can predict these behaviours (Fox *et al.*, 2001). Scott (2007), found the connection between integrity and spirituality in three threads: individual experiences were tied to general elements of the human condition; a dynamic that encourages the creation of a unique self, and living out that unique creation with engagement and acceptance.

#### **2.4 Counterproductive Work Behaviour (CWB)**

To what extent spirituality influence CWB? The literature search did not give much input on CWB per se. However, there is growing evidence in spirituality research that workplace spirituality programmes result in positive individual level outcomes for employees such as increased joy, serenity, job satisfaction, and commitment (Fry, 2003, 2005; Giacalone and Jurkiewicz, 2003b; Krishnakumar and Neck, 2002; Paloutzian *et al.*, 2003; Reave, 2005). There is also evidence that these programmes improve organisational productivity and reduce absenteeism and turnover (Fry, 2003, 2005; Giacalone and Jurkiewicz, 2003b). Interestingly, Han *et al.* (2010) examined the effects of spiritual training programme on counterproductive work behaviour in China and they found that the programme has encouraged honest, warm and harmonious relationships in the workplace.

There has been extensive research on religiosity and crime and drug/alcohol abuse; however, the assumption that religiosity and spirituality are protective factors against deviant behaviour has been criticised as spurious and requires empirical validation (Allen, 2009). Robert and Jarrett (2011) argued that god-fearing, church-going people are not necessarily make better employees. He further argued that religious or spiritual people are not necessarily more honest and responsible. In fact, he found that organisational and interpersonal deviance in the workplace correlate with religiosity. Although an individual's spirituality has important impacts on many attitudes and behaviours, much empirical research in the psychology and sociology of religion also indicates that religiosity and spirituality does not automatically lead to ethical behaviours (Weaver and Agle, 2002).

Fox *et al.* (2001) defined CWB as behaviour that is intended to have a detrimental effect on organisations and their members. Gruys and Sackett (2003) added that these behaviours are viewed by organisation as contrary to its legitimate interests. It can include overt acts such as aggression and theft or more passive acts, such as purposely failing to follow instructions or doing work incorrectly. CWB has been conceptualized in a number of ways, including organisational aggression (Neuman and Baron, 1998; Fox and Spector, 1999), antisocial behaviour (Giacalone and Greenberg, 1997), delinquency (Hogan and Hogan, 1989), deviance (Hollinger, 1986;

Robinson and Bennett, 1995), retaliation (Skarlicki and Folger, 1997), revenge (Bies, Tripp, and Kramer, 1997), and mobbing/bullying (Knorz and Zapf, 1996). A more recent study by Gruys and Sackett (2003) investigated a broader CWB by examining eleven categories of CWB: theft and related behaviour; destruction of property; misuse of information; misuse of time and resources; unsafe behaviour; poor attendance; poor quality work; alcohol use; drug use; inappropriate verbal actions; and inappropriate physical actions.

Counterproductive behaviour at work is clearly a major social and economic issue for both employers and society. The problem of employee theft of merchandise (sometimes termed shrinkage) and cash is an enormous one. Estimates of the total annual cost of such losses range from \$40 billion to \$120 billion (Buss, 1993; Camera and Schneider, 1994). Further, the annual cost of workplace deviance such as violence is estimated at over \$4 billion (Bensimon, 1994), and the overall cost of a wide range of workplace deviance ranges from \$6 billion to \$120 billion annually. Regardless of how seriously one takes these estimates, the magnitude of the problem should be self-evident. The common theme is that these behaviours are harmful to the organisation by directly affecting its functioning or property, or by hurting employees in a way that will reduce their effectiveness. A number of researchers (Fox and Spector, 1999; Robinson and Bennett, 1995) have found evidence that perceptions of CWBs and/or relations of CWBs to individual and organisational variables allow us to distinguish two categories of behaviours: those targeting the organisation and those targeting other persons in the organisation.

The foregoing discussion provides a framework for understanding the ways in which spirituality can influence integrity and good behaviours. Thus the following hypotheses are developed:

- H1: There is a relationship between human spirituality and integrity.
- H2: Individual's integrity influences counterproductive work behaviour.
- H3: There is a relationship between workplace spirituality and integrity.
- H4: There is a relationship between integrity and counterproductive work behaviour.
- H5: There is an interactive effect of human spirituality and workplace spirituality on integrity.

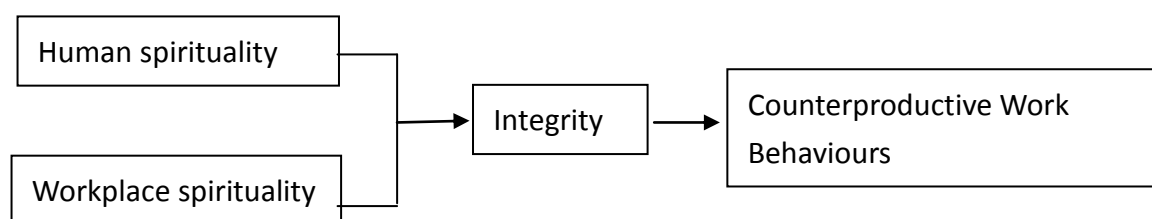


Fig. 1: Conceptual Framework of the Study

### 3. METHODOLOGY

#### 3.1 Sampling Procedures

Several prominent Islamic organisations in Malaysia were selected for this research. These organisations were selected because they deal with either Islamic products or services and employ majority of Muslim employees. In addition the organisations practice values management styles and emphasise on religion requirement. In total, there are more than 100,000 employees in these organisations.

Stratified random sampling was employed where employees were selected from the management category as well as from supporting staff category who are proficient in English. This is because the survey was prepared in English although translation in Bahasa Malaysia was also provided in the survey form. To achieve 99 per cent confidence level, the sample size needed is 1200 in total.

### 3.3 Measurement

The questionnaire developed for this study comprises 5 parts. Part A surveyed the individual employees spirituality level. Individual spirituality was measured using Human Spirituality Scale (HSS) (Wheat, 1991), a measure developed to assess substantive individual attributes constituting one's spiritual values. Previous work (Belaire and Young, 2000; Kolodinsky *et al.*, 2007) showed that this measure was successful in assessing an individual's spirituality. The reliability reported by Wheat (1991) was  $\alpha = 0.89$ . The HSS is a 21-item instrument with Likert-type scaling, ranging from 1 (never) to 5 (constantly). For some items, the scale ranging from 1 (strongly disagree) to 5 (strongly agree). Meanwhile, Part B asked about workplace spirituality. Workplace spirituality was measured by adopting a scale from Petchsawang and Duchon (2009). The scale has 37 items which cover five factor definition of spirituality in the workplace in Asian context: (a) connection, (b) compassion, (c) mindfulness, (d) meaningful work, and (e) transcendence. The items used a five-point Likert scale where 1 = strongly disagree and 5 = strongly agree.

Part C of the questionnaire asked about counterproductive work behaviour of the employees. The measures were adapted from dimensionality of counterproductive work behaviour by Gruys and Sackett (2003). There are 66 behaviours included in the study. The behaviours list was then sorted into 10 separate categories of CWB based on the similarity of content. Ten classifications of behaviour were asked to the employees to rate themselves whether they would engage in the behaviour. The classifications are (a) theft and related behaviour, (b) destruction of property, (c) misuse of information, (d) misuse of time resources, (e) unsafe behaviour, (f) poor attendance, (g) poor quality work, (h) drug use, (i) inappropriate verbal actions, (j) inappropriate physical actions. The items on alcohol use were omitted to suit the nature of the sample. Participants were asked to rate whether they would engage in each of the counterproductive behaviours on five-point scale with 1 being anchored with "No matter what the circumstances, I would not engage in the behaviour" and 5 being anchored with "In a wide variety of circumstances, I would engage in the behaviour." Participants were asked to respond according to the assumption that they will have the opportunity in their workplace to engage in all of the listed behaviours.

Meanwhile, for Part D, the employees' integrity was tested using the Substance, Production loss, and Interpersonal Problem Inventory (SPI). It is a measure of overt integrity. The measure includes 39 questions regarding an individual's level of integrity and the likelihood of engaging in various counterproductive behaviours. The measure used a five-point Likert scale. The reliability of the SPI Inventory has also been assessed and found to be a highly reliable instrument of measurement (Bird, 2006). Lastly, Part E surveyed the employees' demographic background such as gender, level of education, age, ethnic group, duration of working in the company, staff category, religion, and previous attendance in any religious school.

### 3.4 Reliability Analysis

Before the actual data was collected a pilot test was carried out. This is to see

the reliability of questionnaire. Reliability shows the accuracy or precision of the measuring instrument, thus a pilot test seeks to answer whether the questionnaire consistently measure whatever it measures. In this study, the pilot test was conducted by collecting data of 40 respondents of which were not included in the sample. All the items in the measurement were found reliable with Cronbach Coefficient ranging from 0.705-0.988. Table 1 states the standardised Cronbach Coefficient values for the pilot test and the actual data. All variables showed reliable results except one of the items in workplace spirituality which is compassion that has been deleted from the actual analysis because its Cronbach Coefficient was below 0.7 and it was not reliable to be included in the analysis.

Table 1: Pilot Test Reliability Statistics of Research Variables

Variables	Pilot (n = 40)	Actual (n = 1203)
Human spirituality	0.931	0.844
Workplace spirituality	0.943	0.871
(a) connection	0.910	0.815
(b) mindfulness	0.871	0.927
(c) meaningful work	0.890	0.705
(d) transcendence	0.894	0.777
Counter-productive work behaviour	0.983	0.988
(a) theft and related behaviour	0.934	0.949
(b) destruction of property	0.977	0.964
(c) misuse of information	0.905	0.942
(d) misuse of time resources	0.933	0.948
(e) unsafe behaviour	0.864	0.939
(f) poor attendance	0.920	0.923
(g) alcohol use	0.987	0.938
(h) drug use	0.890	0.956
(i) inappropriate verbal actions	0.953	0.939
(j) Inappropriate physical actions	0.975	0.966
Integrity	0.927	0.958

The process of analysing the variables in the questionnaire required all negative statements to be recoded. Moreover, all statements were grouped according to their variables and they were computed into total scores to find the mean scores of those variables. For example, 36 statements from workplace spirituality were grouped into five variables, which are connection, compassion, mindfulness, meaningful work, and transcendence. These five variables were then computed as total scores for workplace spirituality. Descriptive statistics, one sample test and correlation were performed.

## 4. FINDINGS

### 4.1 Respondents' Background

The total number of respondents from 13 organisations surveyed for this study

was 1203 employees who came from various backgrounds. Table 2 shows the demographic background of the respondents. The study was answered by females with 49.1 percent, another 43.9 percent was males, and the rest 7 percent of the respondents did not indicate their genders. The respondents were from Malaysia which the ethnic group comprises of Malay (86.4 percent), Chinese (3.1 percent), Indian (0.9 percent), and others (1.1 percent). In term of duration of working experience, 31.2 percent of the respondents had worked in the organisations for less than three years, 12 percent was between four to five years, 16.9 percent was between six to 10 years, 11.5 percent was between 11 to 15 years, 5.8 percent was between 16 to 20 years, 7.3 was between 21 to 30 years, and 0.8 percent worked there more than 30 years. Moreover, the supporting staff category employees had mostly answered the questionnaire with 53.0 percent, 36.7 percent of the employees were from management category, and the rest 9.4 percent did not indicate their staff category. The respondents were also asked whether they have attended any religious school before and 59.9 percent said yes, 27.5 said no, and another 12.6 percent did not specify the answer.

Table 2: Respondents' Demographic Background

<b>Variables</b>	<b>Frequency</b>	<b>Percent</b>
<i>Gender:</i>		
Female	591	49.1
Male	528	43.9
Missing value(s)	84	7.0
<i>Level of education:</i>		
Some high school or less	55	4.6
High school	311	25.9
Diploma	287	23.9
Degree	399	33.2
Professional degree	61	5.1
Missing value(s)	90	7.5
<i>Age:</i>		
Up to 30 years old	423	35.2
31 to 40 years old	405	33.7
41 to 50 years old	195	16.2
51 and above	28	2.3
Missing value(s)	152	12.6
<i>Ethnic group:</i>		
Malay	1039	84.4
Chinese	37	3.1
Indian	11	0.9
Other(s)	13	1.1
Missing value(s)	103	8.6
<i>Religion:</i>		
Muslim	1059	88.0

Non-Muslims	55	4.6
Missing value(s)	89	7.4
<i>Working experience in the company:</i>		
Less than or equal to 3 years	375	31.2
4 to 5 years	144	12.0
6 to 10 years	203	16.9
11 to 15 years	138	11.5
16 to 20 years	70	5.8
21 to 30 years	88	7.3
More than 30 years	10	0.8
Missing value(s)	175	14.5
<i>Job function:</i>		
Management category	441	36.7
Supporting staff category	649	53.9
Missing value(s)	113	9.4
<i>Attendance in any religious school before:</i>		
Yes	721	59.9
No	331	27.5
Missing value(s)	151	12.6

#### 4.2 Spirituality, Integrity, and CWB

As shown in Table 3, the respondents demonstrated a moderate mean scores of human spirituality (Mean = 3.8892), slightly lower mean score of workplace spirituality (Mean 3.5269), and a moderate mean score of integrity (Mean = 3.7426), and quite low mean scores of CWB (Mean = 1.3044). Further analysis of one sample t-test was done to test these mean scores against the expected mean (test value of 4) for human spirituality, workplace spirituality and integrity. For CWB, since the items are negative statements, it used a test value of 2. The mean scores of human spirituality was lower than the expected mean ( $t = -8.433$ ;  $df = 1200$ ;  $p = 0.000$ ). Similarly for workplace spirituality, the mean scores was very much lower than expected ( $t = -30.295$ ;  $df = 1195$ ;  $p = 0.000$ ). For integrity, the difference in mean score was lower as well ( $t = -9.732$ ;  $df = 1200$ ;  $p = 0.000$ ). For CWB, the respondents also demonstrated lower mean scores than expected ( $t = -38.865$ ;  $df = 1195$ ;  $p = 0.000$ ).

Table 3: Mean Scores and One-Sample t-test of the Variables

Variables	Mean	Std. Dev.	t-value	Df	p-value
Human spirituality	3.889	0.455	-8.433	1200	0.000*
Workplace spirituality	3.527	0.540	-30.295	1195	0.000*
(a) connection	3.809	0.710	-9.314	1202	0.000*
(b) mindfulness	2.729	1.001	-43.926	1197	0.000*
(c) meaningful work	3.776	0.630	-12.322	1200	0.000*
(d) transcendence	3.801	0.657	-10.513	1202	0.000*

CWB	1.304	0.619	-38.865	1195	0.000*
(a) theft and related behaviour	1.371	0.736	-29.634	1201	0.000*
(b) destruction of property	1.270	0.744	-34.048	1202	0.000*
(c) misuse of information	1.337	0.765	-30.096	1202	0.000*
(d) misuse of time resources	1.492	0.718	-24.559	1202	0.000*
(e) unsafe behaviour	1.365	0.766	-28.727	1202	0.000*
(f) poor attendance	1.350	0.748	-30.329	1201	0.000*
(g) alcohol use	1.208	0.668	-41.086	1201	0.000*
(h) drug use	1.179	0.605	-47.060	1200	0.000*
(i) inappropriate verbal actions	1.296	0.656	-37.228	1199	0.000*
(j) Inappropriate physical actions	1.180	0.590	-48.231	1202	0.000*
Integrity	3.743	0.917	-9.732	1200	0.000*

(Notes: \*. Correlation is significant at the 0.05 level (2-tailed))

(Notes 1: Scale for workplace spirituality; 1 = strongly disagree and 5 = strongly agree); test value=4

(Notes 2: Scale for CWB; 1 = "No matter what the circumstances, I would not engage in the behaviour" and 5 = "In a wide variety of circumstances, I would engage in the behaviour."); test value=2

Meanwhile, Table 4, Table 5, Table 6, and Table 7 show the correlation coefficient scores of the variables. Table 5 shows that human spirituality and workplace spirituality have moderate positive and significant relationship ( $r = 0.630$ ,  $p = 0.000$ ). This means that employees who are spiritual do exercise workplace spirituality. Further in the table it shows the details relationship of human spirituality with each of workplace spirituality dimensions.

Table 4: Mean, Standard Deviation, and Correlation Analysis of Human Spirituality and Workplace Spirituality Variables

Variables	Mean	Std. Dev.	1	2	3	4	5	6
1. Human spirituality	3.889	0.455						
2. Workplace spirituality	3.527	0.540	0.630**					
3. Connection	3.809	0.710	0.635**					
4. Mindfulness	2.729	1.001	0.335**					
5. Meaningful work	3.776	0.630	0.428**					
6. Transcendence	3.801	0.657	0.470**					

Notes: \*\*. Correlation is significant at the 0.01 level (2-tailed)

### 4.3 Hypothesis Testing

Table 5 show that human spirituality has negligible relationship with CWB ( $r = 0.049$ ;  $p = 0.091$ ). Similarly, the relationship between human spirituality and integrity is negligible and is not statistically significant ( $r = -0.041$ ,  $p = 0.154$ ). For workplace spirituality, it has a very low positive relationship with CWB ( $r = 0.238$ ,  $p = 0.000$ ) and it is significant. However, workplace spirituality has a very low negative and significant relationship with integrity ( $r = -0.113$ ,  $p = 0.000$ ). Finally, the relationship between integrity and CWB is very low and it is negative ( $r = -0.176$ ,  $p = 0.000$ ). The results in Table 6 further showed the relationship of integrity with each dimension of workplace spirituality.

Table 5: Mean, Standard Deviation, and Correlation Analysis of Human Spirituality and Integrity Variables

Variables	Mean	Std. Dev.	1	2	3	4
1. Human spirituality	3.889	0.455				
2. Workplace spirituality	3.527	0.540	0.630**			
3. CWB	1.304	0.619	0.049	0.238**		
4. Integrity	3.743	0.917	-0.041**	-0.113**	-0.176**	

Notes: \*\*. Correlation is significant at the 0.01 level (2-tailed)

Table 6: Mean, Standard Deviation, and Correlation Analysis of Workplace Spirituality and Integrity Variables

Variables	Mean	Std. Dev.	1	2	3	4	5	6
1. Integrity	3.743	0.917						
2. Workplace spirituality	3.527	0.540	-0.113**					
3. Connection	3.809	0.710	-0.059*					
4. Mindfulness	2.729	1.001	-0.388**					
5. Meaningful work	3.776	0.630	0.175**					
6. Transcendence	3.801	0.657	0.107**					

Notes: \*\*. Correlation is significant at the 0.01 level (2-tailed)

\*. Correlation is significant at the 0.05 level (2-tailed)

In order to test whether human spirituality and workplace spirituality are related to counterproductive work behaviour, mediated by integrity variable, structural equation modelling analysis approach for data analysis and evaluation of the fit of the hypothesised measurement was applied. To test multiple fit indices, fit statistics such as overall model chi-square measure ( $X^2$ ), comparative fit index (CFI), and root-mean-square error of approximation (RMSEA) were utilised. According to Hu and Bentler (1999), to test the parsimony adjusted fit indices for the overall model fit, CFI must be more than or equal to 0.96 and RMSEA must be less than or equal to 0.06. Moreover, p-value of the chi-square must also be higher than 0.05 to achieve a fit model.

Before conducting the analysis of structural equation modelling, factor analysis had to be conducted first to group the questionnaire's statements so that they accurately measure the variables. Figure 2 shows the full diagram of the analysis after factor analysis was conducted. As a result of factor analysis, the items in workplace spirituality and counterproductive work behaviour variables remained unchanged, whereas for human spirituality, it was divided into three items; Human1, Human2, and Human3. For integrity variable, the new items constructed are Integrity1, Integrity2, Integrity3, Integrity4, and Integrity5.

Table 7 shows the results of the model. The overall results indicate that the hypothesised model did not achieve a fit model ( $p$ -value = 0.000; CFI = 0.731; RMSEA = 0.165), thus the role of integrity as a mediator, linking human spirituality and workplace spirituality with counterproductive work behaviour is not supported.



This is according to the results that demonstrate the p-value to be less than 0.000, CFI to be less than or equal to 0.96 and RMSEA to be more than or equal to 0.06.

Table 7: Results of Structural Equation Modelling

	X <sup>2</sup>	df	p-value	CFI	RMSEA
Mediating Model	6914.734	205	0.000	0.731	0.165

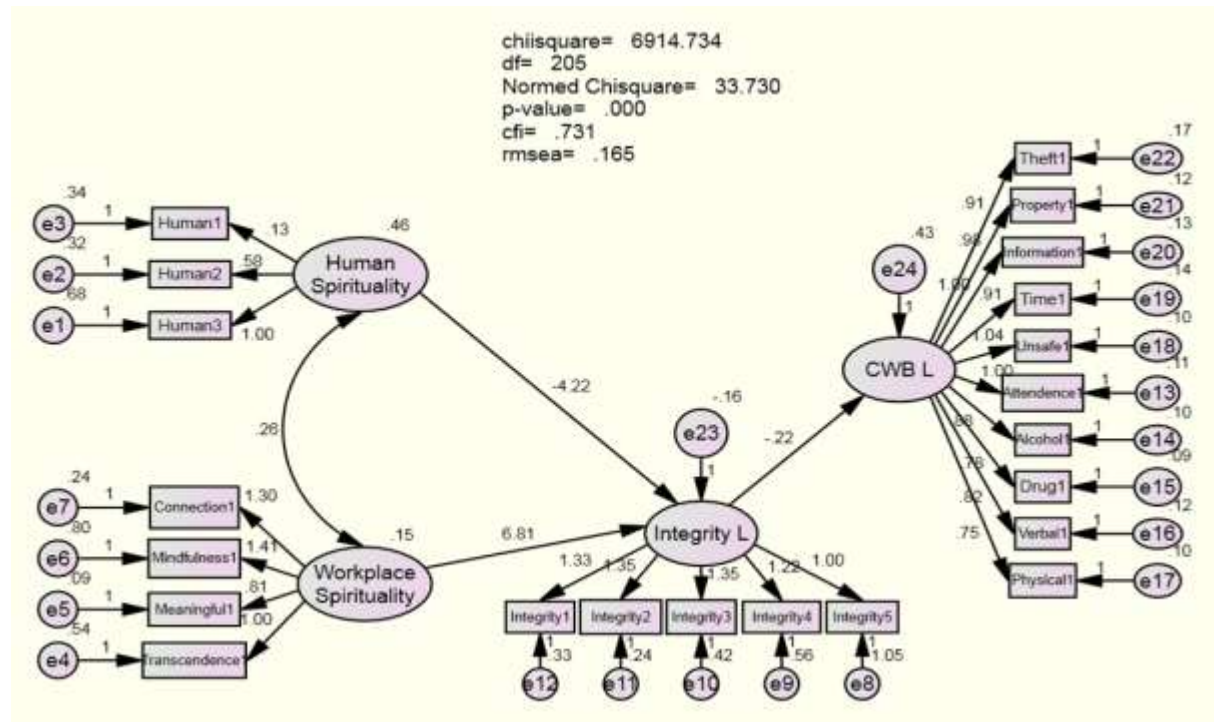


Fig. 2: Path Analysis Illustrating the Relationship among Human Spirituality, Workplace Spirituality, Integrity, and Counter-productive Work Behaviour

## 5. DISCUSSION AND CONCLUSION

This study aims to find out the individual and workplace spirituality of employees in Islamic organisations in Malaysia. Further, it aims to determine if and how spirituality affect integrity which in turn influences organisation performance in term on the occurrence of counterproductive work behaviour. The results showed that the employees have moderate level of individual spirituality, workplace spirituality and integrity. The results further show that the employees would not engage in counterproductive work behaviour. In addition, the current findings suggested that individual spirituality has negligible relationship with CWB and also with integrity. While the relationship between workplace spirituality and CWB is very low and significant. However, workplace spirituality has a very low negative and significant relationship with integrity. The findings further revealed that the relationship between integrity and CWB is very low and it is negative.

It is interesting to note that the relationship analysis showed negligible relationship and the overall results indicate that the hypothesised model did not achieve a fit model ( $p$ -value = 0.000; CFI = 0.731; RMSEA = 0.165), thus the role of integrity as a mediator, linking human spirituality and workplace spirituality with counterproductive work behaviour is not supported. The present study seems in line with Kolodinsky *et al.* (2008). In their study, Kolodinsky *et al.* (2008), found there

was little evidence of an interaction between personal spiritual values and organisational spiritual values for the worker consequences they examined such as job involvement, organisational identification, and rewards satisfaction. In addition, Weaver and Agle (2002) commented that although an individual's spirituality has important impacts on many attitudes and behaviours, much empirical research in the psychology and sociology of religion also indicates that religiosity and spirituality does not automatically lead to ethical behaviours. Moreover, Robert and Jarrett (2011) argued that is not necessary for god-fearing, church-going people make better employees. He further argued that it is not necessary that the religious or spiritual more honest and responsible? In fact, he found that organisational and interpersonal deviance in the workplace correlate with religiosity.

The findings of the present study have important implications. The findings suggest that employees of Islamic organisations in Malaysia are spiritual and integrity. However, their spirituality scores are not as high as expected by the researcher. As argued by Cappelli and Sherer (1991), context is the surrounding that illuminates a phenomenon. As an organisation that deals with and practices Islamic values management, it expects its employees to demonstrate high scores of spirituality and integrity. The perception that all employees of Islamic organisations are spiritual and integrity, however, is not necessarily true in reality. Although, the board of directors of all these organisations are Muslims, the workplace spirituality seems disappointing. As pointed by Geh and Tan (2009), the most apparent implication of workplace spirituality is to do with leadership. Cacioppe (2000) argues that leaders have a central role in the evolution of integrating spirituality at work and instilling a sense of the spiritual realm at the individual, team, and organisational level. This study is the first of its kind as other previous have studied spirituality (Kolodinsky, 2008) but not on Muslim sample. It definitely extends the existing body of knowledge. It provides evidence that spirituality does not confined to particular religion and negative work behaviours are not necessarily associated with either spirituality or integrity.

The perception that all employees of Islamic organisations are spiritual and integrity, however, is not necessarily true in reality. They admitted that they would still engage in CWB, but very minimum. This study is the first of its kind as previous studies have studied spirituality (Kolodinsky, 2008) but not on Muslim sample. It definitely extends the existing body of knowledge. It provides evidence that spirituality does not confined to particular religion and negative work behaviours are slightly associated with workplace spirituality. As pointed by Geh and Tan (2009), the most apparent implication of workplace spirituality is to do with leadership. Cacioppe (2000) argued that leaders have a central role in the evolution of integrating spirituality at work and instilling a sense of the spiritual realm at the individual, team, and organisational level.

For the organisation that are keen to incorporate spirituality into all aspects of work, explicit efforts must be made to structure the work day and office environment to offer opportunities for employees to find a place of reflection and silence, both individually and collectively. Human resource policies can also be adjusted to be made more accommodating in terms of allowing employees to take contemplative breaks during the day. Other effort is by encouraging employees to attend relevant spiritual talks by dishing out appropriate fringe benefits such as time off work or additional leave days.

Human spirituality is revered, respected, and accepted as an element of life –

inside, as well as outside of work. This manifests through an integrity work behaviour, but not necessarily contributes to organisational performance. There is little doubt that it is difficult to change people's character in terms of personality traits such as spirituality and belief. It is not sufficient for employers to point out the benefits of behavioural change. Some employees may not be willing to do the hard work required for integrity change. Their individual greed and flawed characters might dispose them to unethical behaviour. But organisational culture may also play a role. If the opportunity presents itself and the risk of not getting caught is low, if the organisation does not foster an integrity climate, then chances are fairly good that CWB will take place. This organisational explanation of governmental mischief, then, sees such conduct as less the function of individual, psychological disposition and more the result of institutional dysfunction. Therefore, the organisation should conduct an integrity audit to redesign work settings, create proper incentive systems, and modify patterns of interaction among employees. Such an audit would identify sensitive situations that may tempt an individual to act unethically.

Spiritual needs are fulfilled by a recognition and acceptance of individual responsibility for the common good, by understanding the interconnectedness of all life, and by serving humanity and the planet. Therefore, when one speaks about bringing spirituality into the workplace, he or she is talking about changing organisational culture by transforming leadership and employees so that humanistic practices and policies become an integral part of an organisation's day-to-day function. There has been ample empirical evidence that spirituality in the workplace creates a new organisational culture in which employees feel happier and perform better. Employees also may feel that belonging to a work community, which is an important aspect of spirituality, will help them when things get rough in the future. Furthermore, a culture of sharing and caring eventually will reach all of the organisation's stakeholders: suppliers, customers, and shareholders.

Limitations of this study include probable loss of meaning through interpretation and translation. In addition, many of the respondents commented the survey was too long and took a lot of their time. Thus they may have not actually responded to the survey properly. For future research, it would be interesting to examine other moderating effects of employees' personality such personal values and religiosity on spirituality with other organisational outcomes such as with employees' commitment and performance. Knowing these moderators is necessary for understanding how and why spirituality is important.

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THE INFLUENCE OF RESOURCE CONDITIONS  
BETWEEN FIRM AND PARTNERS ON FIRM  
PERFORMANCE IN ALLIANCE PORTFOLIOS

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ABSTRACT

This study investigates the influence of resource conditions between firm and partners on a firm's economic performance in alliance portfolio. I examine the effect of complementarity of technological resources on a firm's profitability. An analysis of 116 semiconductor firms from 1997 to 2007 shows that increasing complementarity of technological resources and compatibility of R&D resources had a positive relationship with a firm's profitability. This study contributes to alliance portfolio literature on partners' resource conditions, by highlighting resource conditions of both firm and partners.

**Keyword:** Alliance portfolio; resource fit; complementarity; compatibility; firm performance

1. INTRODUCTION

How partners' resources affect firm performance has become an important theme in alliance portfolio research. Alliance portfolio refers to a focal firm's set of all direct alliances, taking a variety of forms and occurring across vertical and horizontal boundaries (Baum, Calabrese and Silverman, 2000; Hoffmann, 2007; Lavie, 2007; Wassmer, 2010). Scholars have argued that improving firm's economic performance in composing alliance portfolios is related to partners' prominent resource attributes (e.g., Ahuja, 2000; Baum, Calabrese, & Silverman, 2000; Powell Koput, & Smith-Doerr, 1996). That is, allying with partners well-endowed in resource characteristics is the most valuable association in composing portfolio and improving performance.

Although the contribution of prominent partner resources has been extensively researched, how firm-partner resources influence the focal firm's economic performance remains a puzzle in alliance portfolio study. A focal firm may need a certain level of resources or capabilities corresponding to its partners' prominent technological or commercial resources. Alliance research has early recognized that understanding a firm's alliance activities inherently requires looking at not only partners' resource endowments, but at focal firm's resource conditions, which can be compatible with such endowments (Walker, Kogut and Shan, 1997). Namely, the composition and consequence of an alliance portfolio depends upon resource characteristics of both the focal firm and its partners. As recent studies noted, alliance network and portfolio studies have been slow to embrace this important concern, and have provided limited guidance on how to better ensure composition of alliance portfolios and impact of resources for both firm and partners (e.g., Lavie, 2006; Mitsuhashi and Greve, 2009). Therefore, understanding the impact of resources in alliance portfolios remains incomplete.

In this study, I investigate how increasing complementarity and compatibility of firm-partner resources are associated with a focal firm's economic performance in its alliance portfolios. Many organizational studies have emphasized that firm's inducement to build



alliances derives from two exclusive resource conditions, complementary resources vs. compatible resources. Some emphasize that complementary resources between firm and partners facilitate alliance formation because of synergy (e.g., Chung, Singh & Lee, 2000), while others emphasize that compatible resources allow firms to leverage alliances because of partner uncertainty (e.g., Podolny, 1994; Porter and Fuller, 1986). I propose that increasing complementarity of technological resources and compatibility of organizational resources between firm and partners has a positive effect on a focal firm's profitability, by positing that both resource fits between firm and partners are supplementary rather than exclusive in alliances. I test the hypotheses using a sample of semiconductor firms. By drawing attention to the complementarity of technological resources and compatibility of organizational resources in alliance portfolio, I attempt to bring balance to arguments on partners' resource conditions in the literature on firm performance by highlighting concurring opportunity arising from resource endowment processes.

## **2. THEORY AND HYPOTHESES**

### **2.1 Complementarity versus compatibility**

According to studies on interfirm relations, when a firm evaluates the quality of potential partners, it considers their resource aspects corresponding to the firm's resource condition. That is, whether partners' resource endowments are complementary or compatible to with firm's resource condition is a key determinant to a firm's partner selection. Two theoretical perspectives are involved in these debates. The strategic alliance perspective has long emphasized that firms with complementary resources are more likely to collaborate with one another (e.g., Chung, Singh & Lee, 2000; Gulati, 1995; Gulati, Nohria, and Zaheer, 2000; Lavie, 2007). Resources, assets or activities are mutually complementary if the marginal return of an activity increases with the level of the other activity (Milgrom and Roberts, 1992). For instance, when a manufacturer raises the reliability of its product by investing into better quality control, it becomes more attractive to extend the warranty as well. Thus, complementarity gives rise to synergy among complementary activities, with the total being more than the sum of the parts (Stieglitz and Heine, 2007). Activities may be substitutes, if doing more of one activity lowers the value of another activity. Firms' profile of complementary resources is an important component of the alliance formation process. For example, firms in high-growth industries need to form alliances with partners with complementary capabilities to ensure timely product introduction and to marshal a full array of capabilities (Teece, 1986). High complementarity of partners increases the relative novelty of the knowledge a firm can access, because diversity increases the number and variety of possible knowledge combinations and the potential for highly novel knowledge creation (Fleming, 2001; Levinthal & March, 1981; Mezias & Glynn, 1993).

An alliance portfolio is beneficial to a focal firm to the extent to which the structure of this portfolio is efficiently composed in relation to complementarity of partners. When alliance partners are characterized by a high level of complementarity in resource quality, capabilities, and social position, a firm can improve its performance by leveraging their resource endowment and learning (e.g., Baum *et al.*, 2000; Pfeffer, 1992; Stuart *et al.*, 1999). For instance, alliance portfolios can provide a repository of accumulated experience and novel technological knowledge as their composition becomes more diverse and complementary (Anand and Khanna, 2000; Powell, Koput, & Smith-Doerr, 1996). Complementarity in a portfolio allows firm to increase the level and heterogeneity of prior alliance experience, resulting in improved alliance management skills and firm performance (Reuer *et al.*, 2001).

While firms considering alliances assess complementarity of partners as a basis for alliance formation, a more sociological perspective argues that alliance formation is also affected by the compatibility of partners' resources (Mitsuhashi and Greve, 2009; Porter and Fuller, 1986). Compatibility refers to the degree to which an element can function with other elements in a system without deterioration in overall performance (Farrell & Salome, 1985). The concept of compatibility has often been exemplified by an operating system in organization; the production system is made to transmit goods, messages, or transactions in any direction that suits, so that compatibility in operating systems helps partner firms to cooperate more effectively with each other (Stabell & Fjeldstad, 1998). For example, alliances composed of partners with similar administrative systems or human resource pools will provide a focal firm with a basis to easily evaluate, communicate, and coordinate its partners' cooperative activities and contribution, facilitating knowledge transfer and innovation, because overlapping operational resources function as a basis for learning (Cohen and Levinthal, 1990; Mowery et al., 1996).

Recently, researchers argue that the function and condition of two resource characteristics should not be assumed as parts of a trade-offs. It is possible that a focal firm might compose its alliance portfolio with balance between complementary and compatible resources. Few alliance studies showed the importance of both complementarity and compatibility of firm-partner resource aspects in an alliance. Rothaermel and Boeker (2008) find that a pharmaceutical and a biotechnological firm are more likely to enter an alliance based on complementarities and similarities of alliances. Mitsuhashi and Greve (2009) find evidence that firms' alliances in the shipping industry are associated with market complementarity and resource compatibility. Although this research advances an understanding of the role of mutual resources of firm and partner by focusing on resource complementarity and compatibility in an alliance, empirical evidence on the contribution of resources has been limited to formation of dyadic alliance. This paper extends recent studies that have emphasized the importance of firm-partner resources in alliance formation, by highlighting performance effects of complementarity and compatibility in a firm's alliance portfolio. By simultaneously considering firm-partner resources in an alliance portfolio, this study provide an account of the impact of resource complementarity and compatibility on firm performance in alliance portfolio

## **2.2 Complementarity of technological resources and performance**

In technology intensive industries, complementarity of technological resources is an essential element in partner selection because it directly influences firm outcomes (Rothaermel, 2001). Stuart (2000) makes the point that since benefits derived from alliances in high-tech industry mostly hinge on technological and innovation capabilities that partners endow, the extent to which an alliance portfolio is built by a broad set of technological resources of partners is determinant of a firm's innovation and economic performance. For instance, a firm may grasp technological challenges and possible solutions by composing an alliance portfolio with partners possessing different technologies and knowledge. Complementary technological resources provide opportunity to benchmark technologies, to combine knowledge, and to integrate best solutions that originate from those alliances (Lavie, Lechner & Singh, 2007). Despite incompatibility of their alternative technology architectures, alliances may offer complementary designs for peripheral components or services that can be combined with the core technology of a focal alliance and enhance that technology's value (Dyer & Singh, 1998; Henderson & Clark, 1990).

Several empirical studies assess the effect of complementary resources of partners. For example, Saxenian (1994) found that partnerships with complementarity of technologies rapidly improved innovation, commercialization, and revenue, because complementarity

increases the efficacy of combining both firm and partner's resources for achieving their strategic goals. Powell, Koput and Smith-Doerr (1996) found evidence that U.S. biotechnology firms having located themselves in technological and informational rich positions grew more rapidly by establishing a more diverse set of activities than other firms. Baum and Silverman (1998) suggested that more efficient configurations of alliances lower startups' failure rates in Canadian biotechnology industry. Ahuja (2000a) assessed the networking relationships of chemical firms and joint ventures based on new technologies, and Jensen et al. (2006) found a positive relationship between innovation and dissimilar knowledge in diverse network ties. Thus, I suggest that the greater the complementarity of technological resources between a focal firm and its partners in alliance portfolio, the higher the probability to improve firm economic performance.

***Hypothesis 1. A firm's profitability is positively related to the level of complementarity of technological resources in its alliance portfolio.***

### **2.3 Uncertainty, compatibility of organizational resources, and performance**

According to previous research, the degree of uncertainty about partners is a key constraint in interfirm relations since certainty provides firms with confidence in what to expect from partners (Beckman, Haunschild & Phillips, 2004). Asymmetric or imperfect information about potential partners' capabilities, reliability, and motives are one critical source of uncertainty in interfirm relations (Oxley, 1997; Kogut, 1988; Podolny, 1994). Uncertainty about a partner's potential quality subsequently increases the probability that the partner does not commit itself to cooperation, as fully expected by the other firm (Das and Teng, 1998). Because maximizing self-interests could offer greater benefit than fully complying with the agreement (Gulati, 1995; Parkhe, 1993), the risk of hold-up and leakage is likely to increase, resulting in damages to both firms and joint task (Klein, Crawford, & Alchian, 1978). When quality of partners is uncertain, firms are no longer concerned about interpreting their objective resource quality; but rather deal with this by seeking homophilous partnering or prior partners. They thus attempt to reduce partner uncertainty about quality of resource and commitment, to enhance their relations with resource providers (e.g., Gulati and Gargiulo, 1999).

In early stages of alliance formation, uncertainty makes it difficult to verify a partner's efforts allocated to the alliance (Rothaermel and Deeds, 2004). Thus, when asymmetry of information raises transaction costs, firms are more likely to build partnerships with firms compatible in terms of organizational structure, size, and resources (Mitsuhashi and Greve, 2009; Porter and Fuller, 1986). In managing a number of alliances, a firm may face difficulty and incur heavy coordination costs. Organization scholars early predicted that the more the coordination efforts by mutual adjustment, the heavier the communication burden and decision costs to bear interfere in the relationships (Thompson, 1967). Thus, firms will seek to minimize coordination costs by forming reciprocal relationships with similar partner firms. Because alliances require ongoing coordination processes between partners that involve management time and money (Porter and Fuller, 1986), when interests between parties are divergent and separate, the process of value creation becomes complicated, raising the cost of alliance activity. Thus, the extent of coordination costs depends on the degree of similarity of partners' interests. Porter (1980) suggested that strategic similarity can facilitate inter-firm cooperation that eventually drives up firm performance, so that the greater the strategic distance, the more difficult coordination becomes. Newman (1978) also argued that when firms differ in their strategies, such differences may lead to lack of goal congruence, which can reduce their ability to tacitly collude. Indeed, studies flowing from organizational sociology suggest that rather, increasing diversity in composing an alliance portfolio may

constraint firm outcomes in relation to complexity of resource management, increasing coordination costs, or potential interfirm conflicts (e.g., Ahuja and Lampert, 2001; Bae and Gargiulo, 2004; Goerzen and Beamish, 2005). Therefore, when firms seek business opportunities and improved performance by building alliances, the extent to which underlying organizational resources between a focal firm and its partners are compatible influences the composition of this alliance portfolio, interplaying with the effect of complementarity of technological resources. Thus, I hypothesize that:

***Hypothesis 2. A firm's profitability is positively related to the level of compatibility of organizational resource in its alliance portfolio.***

### 3. METHODS

#### 3.1 Sample

I collected data on firms and alliances in the semiconductor industry during the period 1997-2007. Semiconductor refers to IC (integrated circuits) including memory chips and microprocessors. I restricted the sample to firms that engage in design, manufacturing, and marketing of IC. I initially developed a list of firms from Bloomberg database. From this set, I selected publicly traded firms with five annual financial records. For these firms, I collected records of alliances formed by each focal firm from the SDC Platinum database. In order to ensure complete coverage of publicly announced alliances, I complemented the SDC data by searching alliance announcements in Factiva database, and additional industry articles. I collected firm-specific and partner-specific data including financial records and technology information from Bloomberg database, Datamonitor database, and firms' websites. This process resulted in a total sample of 116 semiconductor firms that have entered into 564 alliances during the period of the study. Following prior research (e.g., Stuart, 2000), I restricted alliances to those involving technology development or exchange because my theory concerned the complementarity of technological resources. I excluded unilateral licensing marketing, and distribution contracts.

#### 3.2 Measures

To measure *firms' profitability*, I used two different measures: Return on assets (ROA) and Return on sales (ROS). ROA and ROS are both widely used by managers to evaluate their annual operations. In addition, they are used in previous studies to assess firm performance (e.g., Gulati, 1999; Melnyk et al., 2004; Sørensen, 2002) and are useful for comparing corporate performance within the same industry. I used three-year average of both measures with one-year lag. Three years of data overlap were chosen because some resources may have immediate effects on profitability, while others may take a number of years before their profitability affects are fully realized (cf. Palmer and Wiseman, 1999).

To measure *complementarity of technological resources*, I used the scope of a firm's technological resources following Park et al. (2002). According to categories of semiconductor product (Datamonitor database), technological resources are distinguished into eight distinctive technological areas: ASIC memory, analog, microcomponent, telecommunication, discrete component, digital signal processing (DSP), gallium arsenide, and optoelectronics. These areas differ in technical concepts, product designs, and manufacturing systems. Complementarity of these technologies in a semiconductor firm's alliance portfolio enables the firm to leverage technological synergy with other partner firms by meeting the firms' need of different technological resources to produce each of different product types (Stuart, 1998). Following Mitsuhashi and Greve (2009), measured *complementarity of technological resource* as the sum of the count of the complement of the technologies divided by the union of the technologies the firms and partners have. Thus, if a

firm  $i$  has three technologies, including two technologies firm  $j$  also has, and firm  $j$  has four technologies, including two technologies firm  $i$  also has, then the union of their technologies is  $3 + 4 - 2 = 5$  technologies. The complement technologies are  $3 - 2 + 4 - 2 = 3$ . Complementarity would then be  $3 / 4 = 0.6$ .<sup>1</sup> I then aggregated the dyadic complementarity by calculating the average complementarity score in an alliance portfolio.

To test Hypothesis 2 on *compatibility of organizational resources*, I used three underlying firm-partners' organizational resources: *strategic compatibility*, *compatibility of physical resource*, and *compatibility of R&D resource*.

*Strategic compatibility.* According to Stinchcombe (1965), firms originating in a given period are "imprinted" by the environment prevalent at that time, and choose their structures and strategies accordingly. If Stinchcombe's hypothesis is correct, the date of founding can be used as a unidimensional proxy for strategy, and firms that are similar in year of founding (i.e., firms that experienced similar environments at their founding dates) are likely to follow similar strategies (Gimeno, 1996).

*Compatibility of physical resources.* A firm that makes a consistent commitment to capital expenditures is continually building tangible resources involving their property, plant, and equipment (Chatterjee and Wernerfelt, 1991). High level of availability of such physical assets and resources can improve productivity of an alliance, influencing firm's profitability. I used *capital intensity* as capital expenditure divided by sales in year  $t-1$ .

*Compatibility of R&D resources.* A firm's R&D expenditures are investments in development of technological knowledge and contribute to its innovation and new product development, improving firm's economic performance. I calculated R&D intensity by dividing R&D expenses by sales in year  $t-1$ .

Following previous studies (Gimeno, 1996), I calculated dyadic compatibility of organizational resources by one minus the difference between a focal firm and a partner for each of these organizational resources (normalized to a zero-to-one range). Greater value indicated higher compatibility between a firm and a partner. I aggregated those compatibility scores by calculating the average compatibility in an alliance portfolio:

$$1. \text{ Dyadic compatibility} = 1 - \frac{|\text{Resource}(i,t-1) - \text{Resource}(j,t-1)|}{\text{Resource}(i,t-1) + \text{Resource}(j,t-1)}, \quad (1)$$

$$\text{Average compatibility} = \frac{\sum \text{Dyadic compatibility}}{\text{Number of alliance}_{i,t}}, \quad (2)$$

where  $\text{Resource}(i, t-1)$  is focal firm  $i$ 's organizational resource and  $\text{Resource}(j, t-1)$  is a partner  $j$ 's organizational resource at year  $t-1$ .

I included a number of control variables that may affect a firm's propensity for composition of alliance portfolio. As control variables for focal firm level, I entered *firm age*, and *firm size* measured as the natural logarithm of the number of employees. I controlled for a firm's *social capital*. A firm's high level of social capital can influence its profitability because it can allow the firm better access to scarce resources (Burt, 1992; Pfeffer & Salancik, 2003; Washington and Zajac, 2005). To measure a firm's *social capital*, I used a firm's prior

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<sup>1</sup> Alternatively, I used different indexes to measure complementarity. First, I calculated the total number of technologies each firm has. I then calculated the absolute overlap in the eight technologies for each dyad, and subtracted this value for dyad from the maximum level (8 technologies) to obtain the measure of complementarity (Rothaermel and Boeker, 2008). I then summed up the complementarity score in an alliance portfolio. The profitability (ROA) effect ( $\beta = 0.01, p < 0.1$ ) was significant but inferior to the reported model.

degree of centrality at year  $t-1$  (Ahuja, 2000; Podolny 1993). I calculated the centrality score by constructing asymmetric network data for each year from 1996 to 2006 using UCINET. I controlled for *prior performance* as it often influences firm's alliance activity. Prior performance is calculated as the net income of year  $t-1$ . To control for prior alliance activities, which may affect alliance formation (Ahuja, 2000a; Baum et al., 2000; Stuart et al., 1999). I counted a focal firm's *prior partnership* with partners involved in the firm's alliance (0=no prior alliance, 1=otherwise). I also calculated the *alliance experience* by taking the number of prior alliances in the past 10 years. To control for governance structure, I used the proportion of *joint ventures* in alliance portfolio. Equity joint ventures are assumed to be effective governance mechanisms for interfirm learning and knowledge transfer, reducing transaction costs (Kogut, 1988). I computed the proportion of joint ventures out of the total number of alliances in firm  $i$ 's alliance network. I controlled for *portfolio size*. More alliance partners can provide a firm with access to more diverse resources and knowledge, enhancing firm outcomes. I computed *portfolio size* using the natural log of the number of alliance partners for firm  $i$  in year  $t$ . Lastly, I controlled for *market uncertainty* using the mean monthly stock price volatility of all sampled firms in year  $t-1$  (Beckman, Haunschild, and Phillips, 2004). It is calculated as the mean monthly price coefficient of variation for all firms in the S&P 500 index for the representative year. If a firm's stock price experiences high variance relative to its average, the firm is experiencing high uncertainty. I measured uncertainty in year  $t-1$  and examined alliances in year  $t$ . All independent variables and control variables were lagged by one year.

#### 4. ANALYSES AND RESULTS

Hypotheses were tested using hierarchical OLS multivariate regression models. I adjusted the standard errors of regression coefficients by using the robust estimates of standard errors clustered by firm (White, 1980). Table 1 presents descriptive statistics and correlations of the variables used in the regression analysis. The overall level of multicollinearity is low as seen through a maximum variance inflation factor (VIF) in the final model of 2.50, well below the threshold of ten.

Table 1. Descriptive Statistics and Correlations

Variables	Mean	s.d.	Min.	Max.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. ROA	0.0	0.1	-0.6	0.4														
2. ROS	0.1	0.1	-0.6	0.3	0.408													
3. Firm age	29	27.5	0	131	0.018	0.114												
4. Log firm Size	8.6	2.2	2.3	12.8	0.100	0.251	0.651											
5. Social capital	0.0	0.3	-0.9	0.9	-0.039	-0.140	0.108	-0.051										
6. Prior performance	5.5	2.0	-0.8	11.5	0.087	0.195	0.229	0.492	-0.139									
7. Prior partnership	2.4	1.8	1	12	0.107	0.115	-0.130	0.067	-0.240	0.102								
8. Alliance experience	91	138	1	994	0.176	0.220	0.318	0.358	-0.159	0.303	0.136							
9. Joint Venture	0.2	0.4	0	1	-0.050	-0.068	0.042	0.048	-0.025	0.035	0.079	0.034						
10. Portfolio size	4.6	2.2	1	11	0.244	0.182	-0.005	0.163	-0.109	0.169	0.286	0.395	0.002					
11. Market uncertainty	0.3	0.3	0	3.2	-0.171	-0.106	-0.041	-0.068	0.022	-0.060	0.030	-0.102	0.001	-0.087				
12. Complementarity of technological resources	0.7	0.4	0	3.8	0.159	0.110	-0.056	-0.055	-0.032	0.113	0.116	0.034	0.076	0.183	-0.024			
13. Strategic compatibility	0.6	0.2	0	1	0.120	0.046	0.044	-0.009	0.044	-0.004	-0.010	-0.077	-0.024	0.015	0.017	-0.057		
14. Compatibility of R&D resources	0.6	0.3	0	1	0.210	0.169	-0.023	0.017	0.056	-0.071	-0.015	0.029	-0.094	0.059	-0.099	0.044	0.047	
15. Compatibility of physical resources	0.1	0.1	0	1	0.088	-0.054	-0.074	-0.133	-0.061	0.068	-0.023	0.045	-0.063	0.107	-0.022	0.014	0.062	-0.048

Note. All correlations greater than +/- 0.10 are significant at  $p < 0.05$ .

Table 2 shows the results of hierarchical OLS regression analyses. Model 1 represents the base model, which includes control variables only. Model 2 and Model 3 include direct effects of main variables. Hypothesis 1 predicts that the relationship between a firm's profitability and complementarity of technological resources is positive. Model 2 provides support for this hypothesis. In both Model 2 and Model 5, complementarity of technological resources is significant and positively related to ROA ( $\beta = 0.047, p < 0.05$ ) and ROS ( $\beta = 0.032, p < 0.1$ ). Hypothesis 2 predicts that compatibility of organizational resources has a positive relationship with a firm's profitability. Results of Models 3 and 6 show partial support for this hypothesis. Precisely, compatibility of R&D resources is significant and positively related to ROA ( $\beta = 0.083, p < 0.05$ ) and ROS ( $\beta = 0.063, p < 0.05$ ). Strategic compatibility is positive and significant for ROA ( $\beta = 0.069, p < 0.01$ ), but not for ROS ( $\beta = 0.030, p < 0.110$ ). Compatibility of physical resources is neither significant for ROA, nor for ROS.

Table 2. Regression results

Variables	ROA			ROS		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	-0.025 (0.044)	-0.054 (0.048)	-0.155** (0.050)	-0.016 (0.038)	-0.036 (0.040)	-0.080† (0.044)
Firm age	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Log firm Size	0.004 (0.007)	0.005 (0.007)	0.002 (0.005)	0.010† (0.006)	0.011† (0.006)	0.010† (0.006)
Social capital	0.007 (0.022)	0.006 (0.021)	0.013 (-0.018)	-0.034 (0.023)	-0.035 (0.023)	-0.040† (0.024)
Prior performance	0.000 (0.005)	-0.001 (0.005)	0.000 (0.004)	0.003 (0.005)	0.002 (0.005)	0.003 (0.005)
Prior partnership	0.003 (0.004)	0.003 (0.004)	-0.003 (0.004)	0.003 (0.004)	0.002 (0.004)	0.002 (0.004)
Alliance experience	0.000 (0.000)	0.000 (0.000)	0.000* (0.000)	0.000 (0.000)	0.000† (0.000)	0.000† (0.000)
Joint Venture	-0.020 (0.016)	-0.024 (0.017)	-0.014 (0.014)	-0.027* (0.012)	-0.030* (0.013)	-0.026* (0.013)
Portfolio size	0.011† (0.006)	0.009 (0.006)	-0.008 (0.005)	0.004 (0.004)	0.003 (0.004)	0.003 (0.004)
Market uncertainty	-0.069* (0.030)	-0.068* (0.030)	-0.061* (0.027)	-0.031 (0.019)	-0.030 (0.019)	-0.025 (0.017)
Complementarity of technological resources		0.047* (0.023)	0.047* (0.021)		0.032† (0.019)	0.030† (0.017)
Strategic compatibility			0.069** (0.024)			0.030 (0.019)
Compatibility of R&D resources			0.083* (0.036)			0.063* (0.030)
Compatibility of physical resources			0.093 (0.178)			-0.061 (0.072)
Model F	2.670	4.511	7.651	3.643	3.509	4.062
R <sup>2</sup>	0.095	0.111	0.162	0.120	0.129	0.157
N	386	386	386	386	386	386

Note: †  $p < 0.1$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ . Robust standard errors adjusted for 116 firm clusters are in parentheses



## 5. DISCUSSION AND CONCLUSION

Understanding resource conditions influencing firms' economic performance may be fundamental to performance research on alliance portfolios. Since a firm's purpose to form alliance portfolio is to leverage different resources and capabilities of heterogeneous partners, a basic focus on the portfolio composition may be matching condition of resources between them. Alliance portfolio scholars, however, paid little attention on this resource condition, by assuming that performance improvement from building alliance portfolio is attributed to partners' prominent resource endowment. Results show evidence that economic performance of semiconductor firms is influenced by those firms' levels of resources conditions. I found that complementarity of technological resources between a focal firm and its partners influences the focal firm's profitability. I also found that increasing strategic compatibility between them had an effect on firm profitability. These findings show that resource fit between a focal firm and its partners is a key factor not only to facilitate the formation of alliances (Chung et al., 2000; Mitsunashi and Greve, 2009; Rothaermel and Boeker, 2008), but also to contribute to firm performance.

This study contributes to alliance portfolio literature examining the effect of partner attributes on firm performance by investigating conditions of firm's and partner's resource attributes. Much of this literature has typically stress the effect of portfolio resources derived from partners' resource endowment (e.g., Ahuja, 2000; Baum *et al.*, 2000; Stuart, 2000; Stuart *et al.*, 1999), according to which composing an alliance portfolio with prominent resource endowments improves the focal firm's performance. Yet, this body of research tends to overlook the effect of resource match between firm and partners. My findings show that fit of mutual resource condition between firm and partners contributes to a firm's performance improvement in semiconductor industry. A firm can maximize its performance improvement when two or more firms are mutually useful to each other in leveraging resources. So, it is reasonable to focus on resource conditions between a focal firm and its partners, rather than on the absolute amount of resources that partners hold. The result extends the argument of recent studies which argue that success in leveraging multiple partnerships is a function of firm-specific aspects (Shipilov, 2009; Srivastava & Gnyawali, 2011; Vasudeva & Anand, 2011; Zaheer & Bell, 2005). The performance effect of diverse network resources could be contingent upon firm's specific attributes such as absorptive capacity (Lavie, 2006; Shipilov, 2006), reflecting the benefits of idiosyncratic resource and knowledge stocks, path dependence, and organizational routine (Cohen and Levinthal, 1990). My findings reinforce and complement the argument of recent studies, by showing that resource fit between firm and partners affects firm performance.

This study suggests potential avenues for future research. Semiconductor firms often build alliances with partners in other industries, such as software and telecommunication industries. Although measures of resource complementarity and compatibility may be more difficult than they are within an industry, it would be valuable to study the impact of resource conditions between firm and partners when partners in different sectors are considered in a focal firm's alliance portfolio. Another potential direction would be to investigate additional performance outcomes. Is market performance or technology innovation also likely to be influenced by resource conditions between a focal firm and its partner? This question would be reasonable for future research. In summary, I examined resource conditions between firm and partners in alliance portfolios. I focused on complementarity of technological resource and

compatibility of organizational resources as key drivers for improvement of firm performance. Empirical results highlight the importance of resource conditions of both focal firm and partner. This study contributes to our understanding of the impact of resources in alliances portfolio by addressing how resource conditions of focal firm-partners' resource determine firm's economic performance.

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## The Effects of Hard and Soft Factors on Product and Process Innovation Performance in the Thailand Context

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### ABSTRACT

This paper examines the unique and interaction effects of hard and soft factors on product and process innovation performance in the context of Thailand. This study employs survey questionnaire to obtain data from senior managers of 429 manufacturing companies. Results of the partial least squares (PLS) model show the unique and interaction effects of hard and soft factors on product and process innovation performance. The findings also show that the coefficients for three out of eight interaction terms were statistically significant and positive.

Keywords: product innovation, process innovation, R&D management, technology management, knowledge management, innovative culture

### 1. INTRODUCTION

Innovation has been a key source of competitive advantage (Chen, Damanpour, & Reilly, 2010; Prajogo & Ahmed, 2006). Despite the many problems of managing it, innovation has become imperative for many companies. Past research has identified benefits for those companies that have been able to successfully exploit their innovations to realize higher profits and market share (Prajogo & Ahmed, 2006). Damanpour (2010) argue that product and process innovations have often been conceived as distinct phenomena that contribute to organizational competitiveness

and growth in different ways. Product innovations are pursued to respond to customers' demand for new products or executives' desire to capture new markets, whereas process innovations are pursued to reduce delivery lead-time or decrease operational costs.

As the importance of innovation presented above, a number of previous studies identify a number of factors which affect a company's innovation performance (Projogo, Laosirihongthong, Sohal, and Boon-itt 2007). Examples of these factors include R&D management, technology management, knowledge management, and innovative culture. However, based on the extensive literature review made by the authors, this is no study that includes these factors in one study and examines their effect on the two types of innovation performance: product and process innovation. Moreover, the relationship between R&D management and innovation performance is not definitive. For instance, Projogo, Laosirihongthong, Sohal, and Boon-itt (2007) did not find the significant relationship between R&D management and product and process innovation performance whereas other two studies (Projogo & Ahmed, 2006; Projogo & Sohal, 2006) which were conducted in Australia indicated that R&D management significantly affected these two types of innovation performance. Possibly, one of possible reason would be a complex relationship between technical aspect and social aspect of organizational resources within organizations, as mentioned by (Projogo & Ahmed, 2006).

According to the socio-technical systems theory, organizations are seen as consisting of two independent, but linked, systems: a technical system and a social system (Manz & Stewart, 1997). The technical system is composed of equipment and processes, while the social system consists of people and relationships. Based on the STS, technology management and R&D management can be grouped as the technical system, while knowledge management and innovative culture could be included in the social system. Furthermore, the STS argues that joint optimization of the two systems, a technical system and a social system, will bring better results than optimizing either system alone (Das & Jayaram, 2007; Taylor & Asadorian, 1985). However, up to date, there is no empirical research examining joint optimization between the two systems in determining the two types of innovation performance: product and process.

The resource-based view (RBV) of the firm argues that business organizations even within the same industry and the same competitive environment are heterogeneous in their resources and this heterogeneity can explain competitive, even sustainable, performance differentials (Ketokivi & Schroeder, 2004). A resource is defined as all assets, organizational processes and systems, firm attributes, information, knowledge, technologies etc. controlled by a firm that enable the firm to

conceive of and implement strategies that improve its efficiency and effectiveness (Barney, 1991). Based on the RBV, a technical system (e.g., technology management and R&D management) and a social system (e.g., knowledge management and innovative culture), therefore, can be considered as organizational resources (or factors). According to the RBV and Prajogo and ahmed (2006), in this paper, we hence argues that hard factors include technology management and R&D management, while knowledge management and innovative culture can be examples of soft factors.

The interaction effect between different types of resources has been discussed and investigated in existing disciplines. The business strategy literature suggests that interactive relationships occur when the effect of one resource depends on the levels of other resources (Amit & Schoemaker, 1993; Jeffers, Muhanna, & Nault, 2008). Moreover, interactive relationships between different kinds of resources have three forms: compensatory, enhancing (synergistic), and suppressing (destroying) (Black & Boal, 1994; Jeffers, et al., 2008; Poppo & Zenger, 2002; Siggelkow, 2002). A compensatory relationship exists when a change in the level of one resource is offset by a change in the level of another resource. Whereas, an enhancing (synergistic) relationship exists when the presence of one factor magnifies the impact of a different factor, a suppressing relationship exists when the presence of one factor diminishes the impact of another. However, that interactive relationships between different types of resources have not been investigated thoroughly yet.

According to the gaps in the literature presented in previous paragraphs, this paper aims to investigate the unique and integration effects of hard factors (technology management and R&D management) and soft factors (knowledge management and innovative culture) on product and process innovation performance in the Thailand context.

## **2. THEORY, CONCEPTUAL FRAMEWORK AND RELATED RESEARCH**

### **2.1 Product and process innovation performance**

As stated earlier, product and process innovations contribute to organizational competitiveness and growth in different ways. Product innovations are pursued to respond to customers' demand for new products or executives' desire to capture new markets, whereas process innovations are pursued to reduce delivery lead-time or decrease operational costs (Damanpour, 2010). In this paper, conceptually, product innovation is concerned with generating ideas or the creation of something entirely new that is reflected in changes in the end product or service offered by the organization, while process innovation represents changes in the way firms produce



end-products or services through the diffusion or adoption of an innovation developed elsewhere or new practices developed internally (Prajogo & Ahmed, 2006; Tidd, Bessant, & Pavitt, 1997).

## **2.2. Hard and soft factors**

As discussed earlier that, in this paper, we hence argues that hard factors include technology management and R&D management, while knowledge management and innovative culture can be examples of soft factors.

### **Technology management**

There are various approaches in defining the content of technology management (Burgelman, Christensen, & Wheelwright, 2004; Morita & Flynn, 1997; Prajogo & Ahmed, 2006). Prajogo and Ahmed (2006) argue that, in the context of strategic innovation, typical technology management practices include the following practices: systematically monitoring trends in existing technologies and identifying emerging technologies, assessing competitors' technological capabilities, building a core competence based on technological capabilities, and choosing sources of technologies, such as in-house R&D, licensing, partnering, and external alliances. After reviewing a number of empirical studies that measured technology management within firms (e.g., Burgelman et al., 2004; Prajogo & Ahmed, 2006; Prajogo & Sohal, 2006), in this paper technology management include following practices: pursuing leading-edge technology in the industry, anticipating the potential of new technologies, implementing long-range programmes for developing technological capabilities, and constantly thinking of the next generation of technology.

### **R&D management**

The R&D construct was developed by selecting several key elements in R&D practices identified in the study by Gupta et al. (2000) and Prajogo and Ahmed (2006). As such in this paper, we define the scale to measure R&D practices within a firm by including the capacity to handle truly innovative and leading-edge research. The level of risk and return involved in R&D projects is also assessed as one of R&D practices. Based on Erickson et al. (1990)'s study, R&D programmes can be classified into three broad types: incremental, radical, and fundamental based on the risks they bear as well as the rate of return they potentially yield that reflects the level of innovativeness of the programmes. The R&D construct also cover the extent of integration between R&D with business strategy as well as with other departments within the firms.

### **Knowledge management**

The KM scale was developed based on the key elements of KM practices as discussed in the literature (Leonard-Barton, 1995; Prajogo & Ahmed, 2006; Tang, 1998). These practices can be summarized to include the following areas of systematically managing knowledge in an organization: facilitating knowledge-related

activities such as creation or assimilation of knowledge, transferring knowledge across the organization, maintaining the knowledge infrastructure, and leveraging knowledge assets to realize their value.

### **Innovative culture**

Innovative culture (Innovativeness) is the receptivity to new ideas and innovations as an integral part of a firm's culture (Calantone, Garcia, & Droge, 2003). In this paper, it is hence a measure of an organization's orientation toward innovation and its ability to make changes as it goes along. Innovative firms focus primarily on finding and exploiting new product and market opportunities, as well as are more likely to undertake really new or radical innovations, which represent a greater departure from existing practices (Calantone, et al., 2003). Compared to incrementally new projects, very innovative projects also fail a greater percentage of the time, involve the risk of greater capital resources, and experience setbacks that may require a refocus. In order to bring innovative products to market and to keep innovative projects on schedule, innovative firms are likely to emphasize speed-to-market activities in the firm structure. This may include practices such as the use of cross-functional teams early in the NPD process, rapid prototyping, or parallel development activities. In innovative firms, management actively seeks innovative ideas and avoids penalizing people if their new ideas don't work. Within innovative culture, when an innovation is perceived as too risky, it is resisted. Furthermore in innovative firms, there is a strong emphasis on the manufacturing/development/marketing of tried and true products or services.

### **2.3 The effects of between hard and soft factors on product and process innovation performance**

As discussed earlier, organizational resources include hard factors (technology management and R&D management) and soft factors (knowledge management and innovative culture) that could be necessary for creating product and process innovations. In this paper, the resource-based view (RBV) is used to examine the relationship between resources (e.g., hard and soft factors) and innovation performance. The RBV argues that business organizations even within the same industry and the same competitive environment are heterogeneous in their resources and this heterogeneity can explain competitive, even sustainable, performance differentials (Ketokivi & Schroeder, 2004). A resource is defined as all assets, organizational processes and systems, firm attributes, information, knowledge, technologies etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness (Barney, 1991). Firm resources are the firm's strengths. Resources are thus defined by virtue of their relationship to performance, and the relationship between resources and performance is the key outcome of interest (Amundson, 1998).

The role of technology in business evolution has been a major element in innovation as it plays a key role in creating a new product or process not only at an evolutionary level, but sometimes also at the fundamental level by 'changing the rules

of competition', or destroying an existing market and creating a new one (Prajogo & Sohal, 2006). Clearly, shifts in technology hold manifold implications as technology is embedded within the designs of products as well as in the production or operational systems of the business (Prajogo & Ahmed, 2006). Previous research (Prajogo & Ahmed, 2006; Rothwell, 1994) indicates the relationship between technology and innovation in the context of exploiting technological opportunities (i.e. technology push) to offer (radical) product innovation in contrast to focusing on an existing market need (i.e. market pull). Accordingly, we hypothesise:

Hypothesis 1a: Technology management is positively associated with product innovation performance.

Hypothesis 1b: Technology management is positively associated with process innovation performance.

R&D has also played a critical role in innovation since it functions as the technological gate-keeper in the organization (Prajogo & Sohal, 2006). According to Prajogo and Sohal (2006), a number of previous studies have shown the relationship between innovation and R&D activities. For example, innovative companies are often characterized by their excellent R&D activities. At a more specific level, R&D can be deployed by a firm to drive many strategic paths: it can be used as an offensive strategy intended to attack competitors, improve market shares, or open up new markets, and each of these strategies is strongly associated with innovation (Prajogo & Ahmed, 2006). Accordingly, we hypothesise:

Hypothesis 2a: R & D management is positively associated with product innovation performance.

Hypothesis 2b: R & D management is positively associated with process innovation performance.

The essence of knowledge management (KM) with respect to innovation is that it provides a framework for management in their attempt to develop and enhance their organizational capability to innovate (Prajogo & Ahmed, 2006). Cohen and Levinthal (1990) label this as absorptive capacity, which is defined as the ability of an organization to recognize the value of new external information and knowledge, assimilate, and apply them. This ability is therefore critical in determining innovative output. (Fiol, 1996). Fiol (1996) argues that the potential of organizations to generate (innovation) outcomes is dependent on the prior accumulation of knowledge they have absorbed. The emergence of KM has enhanced the reciprocity between innovation and knowledge in the sense that innovative efforts are a byproduct of effort and investment in knowledge and knowledge workers. According to Prajogo and Ahmed (2006), outcomes from innovation processes and systems in terms of new products and processes embody new knowledge. Based on previous studies (for example, Fiol, 1996; Leonard-Barton, 1995; Prajogo & Ahmed, 2006), several major

practices for managing knowledge within a firm are presented as follows. At the strategic level, top management should appreciate the intellectual capital of companies as a key part of their organizational innovation infrastructure. As such, firms need to develop an intellectual asset management strategy that focuses on enterprise-level management of specific intellectual assets, such as patents and technologies. At the operational level, organizations need to stimulate and improve the knowledge of their human capital and provide their knowledge workers with adequate means to communicate and share the information. Accordingly, we hypothesise:

Hypothesis 3a: Knowledge management is positively associated with product innovation performance.

Hypothesis 3b: Knowledge management is positively associated with process innovation performance.

As discussed earlier, innovative culture is the receptivity to new ideas and innovations as an integral part of a firm's culture. To bring innovative products to market and to keep innovative projects on schedule, firms in conjunction with innovative culture will emphasize activities including the use of cross-functional teams early in the NPD process, rapid prototyping, and parallel development activities. Accordingly, we hypothesise:

Hypothesis 4a: Innovative culture is positively associated with product innovation performance.

Hypothesis 4b: Innovative culture is positively associated with process innovation performance.

#### **2.4 The interaction effect of between hard and soft factors on product and process innovation performance**

The interaction effect between different types of resources has been discussed in existing disciplines. The business strategy literature suggests that interactive relationships occur when the effect of one resource depends on the levels of other resources (Amit & Schoemaker, 1993; Jeffers, et al., 2008). Amit and Schoemaker (1993) refer to this interaction as complementarity and suggest that, under complementarity, the combined value of the firm's resources may be higher than the cost of developing or deploying each asset individually. As implied in Amit and Schoemaker's concept of complementarity, an enhancing or synergistic relationship requires a bilateral dependence.

The Socio-Technical System (STS) Theory examines the effects of adaptations among subsystems on manufacturing performance, and, therefore, implies the interactive relationship between hard and soft factors (Das & Jayaram, 2007; Emery & Trist, 1960; Liker, Majchrzak, & Choi, 1993). For example, by applying the STS,

Das and Jayaram (2007) explain that when employed in tandem with manufacturing technologies, Kanban and JIT supply methods can result in reduced cost and lead time and improved flexibility. On the one hand, implementation of manufacturing technologies requires augmented and advanced manufacturing infrastructure (e.g., Kanban and JIT supply methods) (Boddy & Buchanan, 1986; Gerwin, 1988). JIT supply promotes use of manufacturing technologies by removing inventory constraints. On the other hand, JIT implementation, in turn, has benefited from the use of technologies such as CAD/CAM, which has been useful in simulating production flow management (Chan & Smith, 1993). This enhancing or synergistic relationship, hence, can be interpreted as a positive interaction (J. Cohen, Cohen, West, & Aiken, 2003; Jeffers, et al., 2008). Snell and Dean (1992) have also found that manufacturing technologies and JIT supply (soft technologies), combine to create 'streamlined flows' and allow simultaneous pursuit of multiple manufacturing goals.

Innovative culture and knowledge management requires the integration of a firm's technology management and R&D management into the overall corporate strategy. Calantone et al. (2003) explained that to drive the success of the new product development (NPD) program, corporate planning activities must recognize the repercussions of innovative culture on all departments of the organization. This type of strategy requires input and knowledge from sales/marketing and research and development (R&D)/engineering as well as manufacturing, logistics finance, and so on. Especially in turbulent environments, it becomes necessary to include knowledge representatives from key departments in overall corporate planning activities. The greater the environmental uncertainty generated by environmental turbulence, the more innovative culture should lead to decision-making characterized by corporate-wide participation, open communication channels across departments, and reliance upon experts and knowledge workers. Corporate planning activities will incorporate more interdepartmental activities, monitoring of the external and internal environment, and a focus on long-term planning. Accordingly, we hypothesize:

Hypothesis 5a: There is a positive interaction between technology management and knowledge management in predicting product innovation performance.

Hypothesis 5b: There is a positive interaction between technology management and knowledge management in predicting process innovation performance.

Hypothesis 6a: There is a positive interaction between technology management and innovative culture in predicting product innovation performance.

Hypothesis 6b: There is a positive interaction between technology management and innovative culture in predicting process innovation performance.

Hypothesis 7a: There is a positive interaction between R&D management and knowledge management in predicting product innovation performance.

Hypothesis 7b: There is a positive interaction between R&D management and knowledge management in predicting process innovation performance.

Hypothesis 8a: There is a positive interaction between R&D management and innovative culture in predicting product innovation performance.

Hypothesis 8b: There is a positive interaction between R&D management and innovative culture in predicting process innovation performance.

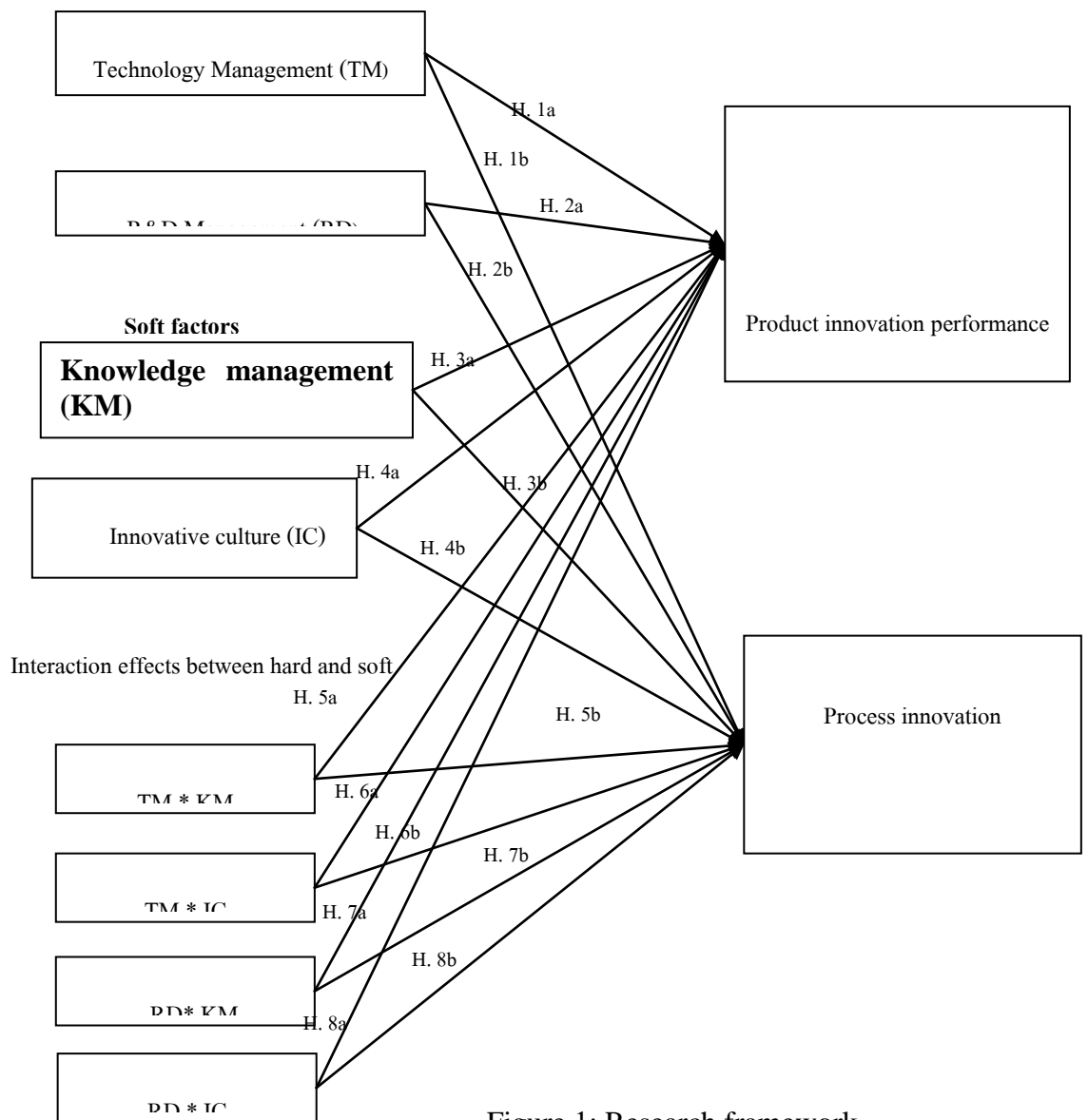


Figure 1: Research framework

Figure 1 shows research framework and hypotheses.

### 3. RESEARCH METHODOLOGY

#### 3.1 Context

The context of this study is manufacturing firms in Thailand. We chose Thai manufacturing firms as the object of this study for three reasons. Firstly, researchers have been increasingly interested in the issue of operations and supply chain management (O&SCM) in emerging economies because O&SCM literature is scant, consisting of qualitative descriptions and anecdotal cases (Iyer, Lee, & Roth, 2008). Secondly, in terms of its importance for the regional and world economies, Thailand, one of the emerging economies, has been considered as an important production platform and the regional headquarters for many multinational companies

(Khanchanapong, Prajogo, Sohal, & Cooper, 2010). Finally, to date, empirical studies, which use a RBV framework to examine operations management issues and focus on firms' resources in the context of emerging economies, remains rare (Hoskisson, Eden, Lau, & Wright, 2000; Khanchanapong, et al., 2010; Mills, Platts, & Bourne, 2003; Williamson, 1999).

### 3.2 Sample and procedure

Data were collected through a mail questionnaire. Following previous empirical studies (e.g., Koste, Malhotra, & Sharma, 2004; Swink & Nair, 2007), the manufacturing plant was chosen as the unit of analysis for this study. A total of 1,500 companies were randomly selected from a database provided by the Department of Industrial Work, Ministry of Industry of Thailand. Upon selection, each company was sent a questionnaire, and asked to pass it to the senior manager who had responsibility and who possessed information about the firm's innovation performance.

### 3.3 Measures

#### *Independent variables.*

Measures of technology management (Prajogo & Sohal, 2006), R&D management (Prajogo & Ahmed, 2006), knowledge management (Prajogo & Ahmed, 2006), and innovative culture (Calantone, et al., 2003) were derived from validated scales with acceptable reliability and validity. All items were rated from strongly disagree (1) to strongly agree (5).

#### *Dependent variables.*

Measures of product and process innovation performance were derived from validated scales (Prajogo & Sohal, 2006). All items were rated from much worse than the company's primary competitor in the industry (1) to much better (5). The items used to operationalise the key constructs are presented in Tables 1.

Table1: Validity and reliability of the measures of the constructs

The measures of the constructs	Loading	t stat	CR**	AVE***
1. Technology Management (TM)			0.929	0.764
1.1) Our company always attempts to stay on the leading edge of new technology in our industry.	0.881	32.283		
1.2) We make an effort to anticipate the full potential of new practices and technologies.	0.879	30.287		
1.3) We pursue long-range programmes in order to acquire technological capabilities in advance of our needs.	0.866	21.400		
1.4) We are constantly thinking of the next generation of				

The measures of the constructs	Loading	t stat	CR**	AVE***
technology.	0.872	21.086		
2. R&D Management (RD)			0.908	0.712
2.1) We have excellent communication processes between R&D and other departments.	0.847	22.607		
2.2) Our R&D pursues truly innovative and leading-edge research.	0.896	38.372		
2.3) Our R&D strategy is mainly characterized by high risk projects with chance of high return.	0.831	16.521		
2.4) R&D plays a major part in our business strategy.	0.798	15.336		
3, Knowledge management (KM)			0.890	0.731
3.1) The build-up of intellectual capital is of strategic importance to management to gain competitive advantage.	0.821	18.148		
3.2) We always upgrade employees' knowledge and skills profiles.	0.889	26.124		
3.3) Our company builds and maintains virtual and physical channels for sharing and disseminating information.	0.852	24.676		
3.4) Our company manages its own intellectual assets, e.g. special techniques, patents, copyrights, licenses.				
4. Innovative culture (IC)			0.874	0.698
4.1) Management actively seeks innovative ideas.	0.871	26.381		
4.2) People are not penalized for new ideas that don't work.	0.792	9.360		
4.3) When an innovation is not perceived as too risky, it is not resisted. *				
4.4) There is a strong emphasis on the manufacturing/development/marketing of tried and true products or services.	0.841	19.800		
5. Product innovation performance (PD)			0.930	0.728
5.1) The level of newness (novelty) of our firm's new products.	0.844	24.387		
5.2) The use of latest technological innovations in our new products.	0.865	24.623		
5.3) The speed of our new product development.	0.858	25.310		
5.4) The number of new products our firms has introduced to				



The measures of the constructs	Loading	t stat	CR**	AVE***
the market.	0.866	23.972		
5.5) The number of our new products that is first-to-market (early market entrants).	0.830	20.215		
6. Process innovation performance (PC)			0.930	0.770
6.1) The technological competitiveness of our company.	0.868	31.065		
6.2) The speed with which we adopt the latest technological innovations in our processes.	0.888	29.485		
6.3) The updated-ness or novelty of the technology used in our processes.	0.889	32.586		
6.4) The rate of change in our processes, techniques and technology.	0.864	21.259		

\* The item which is dropped from the final measure.

\*\*CR = Composite reliability

\*\*\* AVE = Average variance extract

## 4. FINDINGS AND ANALYSIS

### 4.1 Profile of the sample

In total, 429 useable questionnaires were returned, constituting a 29% response rate (429/1,500). In the sample, the greatest proportion of firms comes from machinery and equipment industry (36.364 %), followed by the automotive industry (19.115 %), electrical machinery industry (18.415 %), fabricated metal product industry (14.452 %), electronics, computers, and electrical appliances industry (6.993 %) and office equipment industry (4.662 %).

The majority of responses to the survey were from top management (i.e. CEO/vice president of manufacturing and plant managers) (59.674 %), followed by R&D manager (29.604 %), and other positions that are relevant to operations, e.g., manufacturing/operations managers, product quality managers, production engineers (10.723 %).

The sales revenue data are categorized into two interval groups. Sales revenue for the financial year ending at December 2009 ranges from under 1 million baht to more than 10 billion baht. The largest proportion of the organizations (69.471%) has sales revenue below 1 billion baht, while 30.529% of the respondents have sales revenue more than 1 million baht.

With regard to the distribution of the sample in terms of types of ownership, the

largest proportion of the respondents comes from Thai-owned firms (59.574.2%), followed by joint-venture firms (21.040 %), and foreign-owned firms (19.385 %).

#### 4.2 Measurement reliability and validity

We conducted confirmatory factor analysis (CFA) using partial least squares modeling (PLS) (Chin, 2001). This suggests acceptable unidimensionality, and convergent and discriminant validity for the measures (Browne & Cudeck, 1993; Hinkin, 1995; Kline, 2005). Composite reliability (CR) demonstrated satisfactory internal consistency reliability for the six measures. The results of the item level CFAs and reliabilities are presented in Table 2. Overall, these results provided support for the construct validity and reliability of our measures.

Table 2: Result of discriminant validity

Construct	AVE		Construct						R <sup>2</sup>	AvCommun	AvRedund
	1	2	3	4	5	6					
TM	0.765	0.875							0.765		
RD	0.712	0.582	0.844						0.712		
KM	0.731	0.562	0.557	0.855					0.731		
IC	0.698	0.592	0.505	0.619	0.835				0.698		
PD	0.728	0.483	0.497	0.510	0.513	0.853		0.300	0.728	0.151	
PC	0.770	0.475	0.508	0.508	0.475	0.726	0.877	0.308	0.770	0.109	
						Averag		0.304	0.734		
						e					
						GoF		0.472			

#### 4.3 Structural relationships

Results of the PLS model are presented in Table 5. The goodness-of-fit indices support acceptable fit of the structural model (GoF = 0.472). *Hypothesis 1a* predicted that technology management is positively associated with product innovation performance. The standardised coefficients are  $\beta = 0.118$  ( $p < 0.05$ ), providing support for H1. *Hypothesis 1b* predicted that technology management is positively associated with process innovation performance. The standardised coefficients are  $\beta = 0.079$  ( $p > 0.05$ ), rejecting H1b. *Hypothesis 2a* predicted that R&D management is positively associated with product innovation performance. The standardised coefficients are  $\beta = 0.160$  ( $p < 0.05$ ), providing support for H2a. *Hypothesis 2b* predicted that R&D management is positively associated with process innovation performance. The standardised coefficients are  $\beta = 0.195$  ( $p < 0.10$ ), providing support for H2b. *Hypothesis 3a* predicted that Knowledge management is positively associated with product innovation performance. The standardised coefficients are  $\beta = 0.218$  ( $p < 0.10$ ), providing support for H3a. *Hypothesis 3b* predicted that

knowledge management is positively associated with process innovation performance . The standardised coefficients are  $\beta = 0.211$  ( $p < 0.05$ ), rejecting H3b. Hypothesis 4a predicted that innovative culture is positively associated with product innovation performance. The standardised coefficients are  $\beta = 0.244$  ( $p < 0.05$ ), providing support for H4a. Hypothesis 4b predicted that innovative culture is positively associated with process innovation performance. The standardised coefficients are  $\beta = 0.162$  ( $p > 0.05$ ), rejecting H4b.

The finding also show that the coefficients for three interaction terms were statistically significant and positive, but others were not. Hypothesis 5a predicted that there is a positive interaction between technology management and knowledge management in predicting product innovation performance. The standardised coefficients are  $\beta = 0.260$  ( $p < 0.01$ ), providing support for 5a. Hypothesis 5b predicted that there is a positive interaction between technology management and knowledge management in predicting process innovation performance. The standardised coefficients are  $\beta = -0.197$  ( $p > 0.05$ ), rejecting H5b. Hypothesis 6a predicted that there is a positive interaction between technology management and innovative culture in predicting product innovation performance. The standardised coefficients are  $\beta = -0.078$  ( $p > 0.05$ ), rejecting H6a. Hypothesis 6b predicted that there is a positive interaction between technology management and innovative culture in predicting process innovation performance. The standardised coefficients are  $\beta = 0.106$  ( $p < 0.10$ ), providing support for H6b. Hypothesis 7a predicted that there is a positive interaction between R&D management and knowledge management in predicting product innovation performance. The standardised coefficients are  $\beta = -0.012$  ( $p > 0.05$ ), rejecting H7a. Hypothesis 7b predicted that there is a positive interaction between R&D management and knowledge management in predicting process innovation performance. The standardised coefficients are  $\beta = 0.155$  ( $p > 0.05$ ), rejecting H7b. Hypothesis 8a predicted that there is a positive interaction between R&D management and innovative culture in predicting product innovation performance. The standardised coefficients are  $\beta = 0.072$  ( $p > 0.05$ ), rejecting H8a. Hypothesis 8b predicted that there is a positive interaction between R&D management and innovative culture in predicting process innovation performance. The standardised coefficients are  $\beta = 0.774$  ( $p < 0.05$ ), providing support for H8b. Table 3 presents result of hypothesis testing.

Table 3: Result of hypothesis testing

Construct	Std. coefficient	t-stat	Supported/ Rejected
H1a : Technology management(TM)→Product Innovation Performance	0.118*	2.02	Supported

H1b : Technology management(TM)→Process Innovation Performance	0.079	0.926	Rejected
H2a : R&D management(RD)→Product Innovation Performance	0.160*	2.457	Supported
H2b : R&D management (RD)→Process Innovation Performance	0.195 <sup>+</sup>	1.853	Supported
H3a : Knowledge management(KM)→Product Innovation Performance	0.218 <sup>+</sup>	1.840	Supported
H3b : Knowledge management(KM)→Process Innovation Performance	0.211	1.628	Rejected
H4a : Innovative Culture (IC)→Product Innovation Performance	0.244*	2.248	Supported
H4b : Innovative Culture (IC)→Process Innovation Performance	0.162	0.943	Rejected
H5a : TM x KM→Product Innovation Performance	0.260**	2.999	Supported
H5b : TM x KM→Process Innovation Performance	-0.197	0.906	Rejected
H6a : TM x IC→Product Innovation Performance	-0.078	-0.778	Rejected
H6b : TM x IC→Process Innovation Performance	0.106 <sup>+</sup>	1.874	Supported
H7a : RD x KM→Product Innovation Performance	-0.012	-0.157	Rejected
H7b : RD x KM→Process Innovation Performance	0.155	0.860	Rejected
H8a : RD x IC→Product Innovation Performance	0.072	0.413	Rejected
H8b : RD x IC→Process Innovation Performance	0.774*	2.411	Supported

<sup>+</sup> p-value ≤ 0.10; \* p-value ≤ 0.05 ; \*\* p ≤ 0.01

## 5. DISCUSSION AND IMPLICATIONS

### 5.1 The effect of hard and soft factors on product and process innovation performance

The findings support H1a, H2a, H2b, H3a, and H4a, which are consistent with

previous research. Prajogo and Sohal (2006) and Prajogo Laosirihongthong, Sohal and Boon-itt (2007) also found that technology management and R&D management positively influence the creation of product innovation. Shifts in technology hold manifold implications as technology is embedded within the designs of products (Prajogo & Ahmed, 2006). Previous research (Prajogo & Ahmed, 2006; Rothwell, 1994) indicates the relationship between technology and innovation in the context of exploiting technological opportunities (i.e. technology push) to offer (radical) product innovation. R&D has also played a critical role in product innovation since it functions as the technological gate-keeper in the organization (Prajogo & Sohal, 2006). Prajogo and Sohal (2006) also point out the relationship between R&D activities and product innovation. R&D can be deployed by a firm to drive product innovation performance.

The essence of KM and innovative culture with respect to product innovation is that it provides a framework for management in their attempt to develop and enhance their organizational capability to innovate (Prajogo & Ahmed, 2006). According to Cohen and Levinthal (1990), the ability of an organization to recognize the value of new external information and knowledge, assimilate, and apply them is therefore critical in determining innovative output. Fiol (1996) also support that the potential of organizations to generate product innovation depends on the prior accumulation of knowledge they have absorbed. Based on previous studies (for example, Fiol, 1996; Leonard-Barton, 1995; Prajogo & Ahmed, 2006), organizations need to stimulate and improve the knowledge of their human capital and provide their knowledge workers with adequate means to communicate and share the information, in order to develop new products. As discussed earlier, innovative culture is the receptivity to new ideas and innovations as an integral part of a firm's culture. To bring innovative products to market, firms in conjunction with innovative culture will emphasize activities including the use of cross-functional teams early in the NPD process, rapid prototyping, and parallel development activities (Calantone, et al., 2003).

The findings support H2b. this means R&D management is positively associated with process innovation performance. The findings are supported by Prajogo and Sohal (2006) indicating that R&D has played a critical role in innovation since it functions as the technological gate-keeper in the organization. R&D can be used as an offensive strategy intended to improve production process. However, the research findings did not support H1b, H3b, and H4b. Technology management is associated with process innovation performance (H1b). Both KM and innovative culture are not linked to process innovation (H3b and H4b, respectively).

## **5.2 The interaction effect between hard and soft factors on product and process innovation performance**

The finding also show that the coefficients for three interaction terms were statistically significant and positive, but others were not. These findings hence represent mixed results. The findings support H5a, H6b, and H8b. This means there is a positive interaction between technology management and knowledge management in predicting product innovation performance. The findings also support that there is a positive interaction between technology management and innovative culture, and that between R&D management and innovative culture in predicting process innovation performance (H6b and H8b, respectively). These findings confirm that the concept of complementarity (Amit & Schoemaker, 1993) is applicable in an emerging economy, such as Thailand. This concept suggests that interactive relationships occur when the effect of one resource depends on the levels of other resources (Amit & Schoemaker, 1993; Jeffers, et al., 2008). Under complementarity, the combined value of the firm's resources may be higher than the cost of developing or deploying each asset individually.

These findings also confirm that the STS Theory (Das & Jayaram, 2007; Emery & Trist, 1960; Liker, et al., 1993) can be applicable in the Thailand context. The findings of our research show the effects of adaptations among subsystems, which are technical systems (technology management and R&D management) and social systems (knowledge management and innovative culture), on product and process innovation performance. Innovative culture and knowledge management requires the integration of a firm's technology management and R&D management to create product and process innovations. As Calantone et al. (2003) explained, corporate planning activities must recognize the repercussions of innovative culture on all departments of the organization, in order to drive the success of the NPD program. The creation of product and process innovations requires input and knowledge from sales/marketing and R&D engineering as well as manufacturing, logistics finance, and so on. It also requires knowledge representatives from key departments in NPD activities. Furthermore, innovative culture should lead to decision-making characterized by corporate-wide participation, open communication channels across departments, and reliance upon experts and knowledge workers.

However, the findings reject H5b, H6a, H7a, H7b, and H8a. One explanation for the lack of evidence of any support for these hypotheses could be the well-known difficulty in detecting interaction effects, even with relatively large samples, as mentioned by Aguinis (1995). Other researchers have also faced this difficulty. For example, Based on their survey of 441 Australian senior HRM managers, [Sheehan, Cooper, Holland, and Cieri](#) (2007) found that none of their interaction terms were significantly different from zero. According to data from 224 manufacturing plants in

the US, Swink and Nair (2007) found that 6 out of 8 interaction terms were significantly different from zero.

### **5.3 Limitations and recommendations**

We acknowledge the following limitations to our study. Firstly, because a cross-sectional survey method was utilized, causal inferences cannot be definitively drawn (Nair & Swink, 2007). Also, a longitudinal or experimental study is recommended to strengthen casual inference.

The second limitation related to our data is that they were all collected from a single source. However, Spector (2006) has argued that it is incorrect to assume that the use of a single method automatically introduces systematic bias; rather the potential for bias must be assessed, given the nature of the data. In addition, the interactions observed in our analyses tend to lower concerns for same-source bias. According to his extensive Monte Carlo study regarding whether method variance might generate artifactual interactions, Evans (1985, p. 305) concluded that “The results are clear-cut. Artifactual interactions cannot be created; true interactions can be attenuated”.

Thirdly, the present study used perceptual measures. With regard to innovation performance, the use of objective measures would, in deed, be an ideal approach. However, managers may be reluctant to share objective data with researchers (Khanchanapong, et al., 2010; Nair & Swink, 2007).

Finally, in this study, there is a limitation, in terms of the scopes of hard and soft aspects of organisational resources. Therefore, future research should investigate the effects of other hard and soft aspects of organisational resource on improving innovation performance.

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## Evaluating e-Business Performance using Fuzzy PROMETHEE II Method

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### ABSTRACT

Business-To-Business electronic marketplace (B2B e-Marketplace), an electronic platform for buyers and sellers, provides a new dimension in facilitating the marketers to work more effectively when making critical marketing decisions. However, Small to Medium Sized Enterprises (SMEs) who are keen to compete in the electronic environment remain concerned as how their businesses can benefit from the B2B e-Marketplace. This study demonstrates the fuzzy PROMETHEE approach to critically explore B2B e-Marketing services derived from B2B e-Marketplace for SMEs, evaluate the findings, and use the generated results to link to a firm's e-Business performance. The findings is intended to be used as a guideline for managers who wish to adopt a proactive approach in the use of B2B e-Marketplace for competitive advantage, and exploration of the e-Marketing service performances for SMEs.

Keywords: B2B e-Marketplace, Decision Analysis, Fuzzy PROMETHEE, e-Marketing Services, SMEs

### 1 INTRODUCTION

Internet technologies are increasingly recognized as a key resource for most of the firms' business and marketing performances (Wu, 2002). According to the Internet World Stats (2010), by 30 June 2010, the Internet user population reached over 1.90 billion worldwide, 444.8 percent increased in the period from 2000 to 2010. Explosive growth of the World Wide Web (WWW) and the Internet-based trading has greatly facilitated the development of online commercial applications (Chao et al., 2003). Consequently, the emergent and usage of B2B enabling technology has caused profound changes to the Internet-based business environment.

The development of B2B e-Marketplace founded the use of Internet technologies for marketing purposes has attracted the attention of marketers for some years. The B2B e-Marketplace can significantly improve the way companies deal with their customers and suppliers (Downie, 2002). Furthermore, the initial proliferation of B2B e-Marketplace proved to be sustainable for buyers/sellers and play an important role in global business environment (Dyer, 2000; Stockdale and Standing, 2004). The majority of participants in the B2B e-Marketplace are SMEs (Chong et al., 2010). However, the literature on the understanding of the issues associated with performance of B2B e-Marketplace in conducting e-Marketing for SMEs is limited.

Hence, there is an urgent need to understand the adoption issues confronted by SMEs especially from the e-Marketing standpoint. This research proposes fuzzy PROMETHEE to address this issue.

PROMETHEE (Preference Ranking Organization METHOD for Enriching Evaluations) was firstly developed by Brans in 1982 at the conference (Brans, 1982), and then further developed as a family (Brans and Marechal, 2005). PROMETHEE I deals with a partial preorder, PROMETHEE II deals with a complete preorder, PROMETHEE III deals with an interval order emphasizing indifference, PROMETHEE IV deals with continuous set of possible alternatives, PROMETHEE V supports the optimization under constraints and PROMETHEE VI is a representation of the human brain. Behzadian et. al. (2010) reviewed a number of PROMETHEE's applications including the topics of environment management, hydrology and water management, business and financial management, chemistry, logistics and transportation, manufacturing and assembly, energy management, social, medicine, agriculture, education, design, government and sports. Brans and Marechal (2005) combined the fuzzy set theory (Zadeh, 1965) in the form of Dubois and Prade (1978), and the ranking method (Yager, 1981) into PROMETHEE, named F-PROMETHEE. The idea is that the fuzzy decision matrix is "defuzzified" as a crisp decision matrix, which satisfies the use of PROMETHEE. This research chooses the approach (Yuen and Ting, 2012) with some modifications of Brans and Marechal (2005), which the fuzzy number in the convention form is used to PROMETHEE II.

In the rest of this study, section 2 describes the steps for Fuzzy PROMETHEE II. Section 3 demonstrates the use of the fuzzy PROMETHEE II for evaluation in e-Marketing Services and e-Business Performance, and Conclusions and future study are given in Section 4.

## 2 FUZZY PROMETHEE II

There are four steps in Fuzzy PROMETHEE II. The details are as follows.

### Step 1: Formulate a fuzzy decision matrix

A typical m by n fuzzy decision matrix is shown as below:

$$\begin{matrix}
 (\widehat{w}_1 & \dots & \widehat{w}_j & \dots & \widehat{w}_n) \\
 \widehat{c}_1 & \dots & \widehat{c}_j & \dots & \widehat{c}_n \\
 \widehat{T}_1 & \left( \begin{array}{cccc} & & & \\ & & & \\ & & \widehat{r}_{ij} & \\ & & & \end{array} \right) \\
 \vdots \\
 \widehat{T}_i \\
 \vdots \\
 \widehat{T}_m
 \end{matrix} \tag{1}$$

$\widehat{c}_j \in \widehat{C}$  is a fuzzy positive criterion. The criterion is a maximum criterion if the decision maker prefers more value for this criterion. Otherwise, it is a minimum criterion.  $\widehat{T}_i \in \widehat{T}$  is an fuzzy alternative.  $\widehat{T}^*$  is the ideal fuzzy alternative from  $\widehat{T}$ .  $\widehat{r}_{ij} \in \widehat{r}$  is the utility value.  $\widehat{w}_j \in \widehat{W}$  is the fuzzy weight of  $\widehat{c}_j$ . In [10], Goumas and

Lygerou used the fuzzy number in the form  $(\eta, a, b)$ , which is equivalent to the conventional form of triangular fuzzy number  $(l, \eta, u)$  such that  $(l, \eta, u) = (\eta - a, \eta, \eta + b)$  where  $m - a$  is the low boundary  $l$ ,  $m + b$  is up boundary  $u$ , and  $\eta$  is the modal value. This paper uses the conventional form  $(l, \eta, u)$  as a fuzzy number.

### Step 2: Index fuzzy numbers in the fuzzy decision matrix

The fuzzy number in the fuzzy decision matrix can be “defuzzified” to the crisp number by the function:

$$I(l, \eta, u) = \frac{l + \eta + u}{3} \quad (2)$$

In other word, the above process converts a fuzzy decision matrix as a crisp decision matrix as follows:

$$\begin{matrix} (w_1 & \dots & w_j & \dots & w_n) \\ c_1 & \dots & c_j & \dots & c_n \\ T_1 & \left( \begin{matrix} & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ T_m & & & & \end{matrix} \right) & \end{matrix} \quad (3)$$

$c_j \in C$  is the positive criterion.  $T_i \in T$  is the alternative.  $T^*$  is the ideal alternative from  $T$ .  $r_{ij} \in r$  is the utility value.  $w_j \in W$  is the weight of the criterion  $c_j$ . The cap removal from the fuzzy notations is crisp value.

### Step 3: Calculate aggregated preference indices

$P_j(T_i, T_k) = P_j(d(T_i, T_k)) = P_j(r_{ij} - r_{kj})$  is a preference function showing that how much  $T_i$  prefers to  $T_k$  with respect to  $c_j$ . According to Brans and Maraeschal [5], six types of preference functions  $P(d)$ 's are proposed. Goumas and Lygerou [10] chose V-Shape with indifference criterion as the preference function for their demonstration. (Please note that the function forms presented in [10] are only for maximum criteria.) This study chooses Gaussian Criterion function as the preference function and has the form:

$$P(d) = \begin{cases} 0 & d \leq 0 \\ 1 - e^{-\frac{d^2}{2s^2}} & d > 0 \end{cases}, \text{ if the criterion is a maximum criterion.} \quad (4)$$

$$P(d) = \begin{cases} 0 & d \geq 0 \\ 1 - e^{-\frac{d^2}{2s^2}} & d < 0 \end{cases}, \text{ if the criterion is a minimum criterion.} \quad (5)$$

Aggregated preference index  $\pi(T_i, T_k)$  expresses the degree of how  $T_i$  is preferred to  $T_k$  over all the criteria. The aggregated preference indices are of the form:

$$\pi(T_i, T_k) = \frac{\sum_{j=1}^n P_j(T_i, T_k) \cdot w_j}{\sum_{j=1}^n w_j}, \quad \forall T_i, T_k \in T \text{ and } i \neq k \quad (6)$$

#### Step 4: Calculate outranking flow

Each alternative  $T_i$  is facing  $(m-1)$  other alternatives in  $T$ . In order to rank the alternatives, the outranking flows are defined as follows.

The positive outranking flow is of the form:

$$\phi^+(T_i) = \sum_{k=1}^m \pi(T_i, T_k) \quad (7)$$

The negative outranking flow is of the form:

$$\phi^-(T_i) = \sum_{k=1}^m \pi(T_k, T_i) \quad (8)$$

The net outranking flow is applied and is of the form:

$$\phi(T_i) = \phi^+(T_i) - \phi^-(T_i), \quad \forall i \in \{1, \dots, m\} \quad (9)$$

The positive outranking flow expresses how an alternative  $T_i$  is outranking all the others. The higher  $\phi^+(T_i)$  gives a better alternative. On the other hand, the negative outranking flow expresses how an alternative  $T_i$  is outranked by all the others. The lower  $\phi^-(T_i)$  gives a better alternative. The higher  $\phi(T_i)$  follows the better alternative.

### 3 THE B2B E-MARKETING SERVICES AND E-BUSINESS PERFORMANCE

The linkage between B2B e-Marketplace and e-Marketing has received significant attention both as a technological innovation and as a major element for marketing performance (e.g. Noori and Salimi, 2005; Eid et al., 2006). Many authors (e.g. Kierzkowski et al., 1996; Cannon and Perreault, 1999; Chaffey, 2004) highlighted several dimensions of the e-Marketing services including:

e-CRM - Since B2B and CRM are online-based operations, they are sharing many similarities such as; relationships management (Kierzkowski et al., 1996), sales force automations (Chaffey, 2004), involved in the similar operations such as marketing, billing, shipping and customer services (Zeng et al., 2003). As B2B and CRM become more demandable to customers, it is predictable that the integration of CRM into the e-Marketing services will be value-added to the SMEs.

e-SCM - Many academics and practitioners (Serve et al., 2002; Albrecht et al., 2005; Angeles and Nath, 2007) believe that, by integrating SCM on B2B e-Marketing, companies can change their traditional B2B exchange methods to collaborate and share information via the Internet. The main purpose of SCM is to link the manufacturer's operations with their suppliers, customers and intermediaries (Angeles and Nath, 2007). Hence, the exploration on how B2B e-Marketplace links with companies' procurement process, operations, sales and marketing, and distributions process in different supply levels in partnerships with their stakeholders becomes

important.

e-Competitiveness - The ability of the Internet to explore new markets is gradually becoming a main tool in marketing activities (Eid et al., 2006). The Internet can make various kinds of collaborations between companies to achieve sustainable competitive advantages in the global business environment (Rohm et al., 2004). However, the openness of the Internet and advances in software and applications means that companies can develop, design and copy best practices very quickly. Therefore, it is difficult for a firm to stay ahead from its rivals, because many companies can end up following similar marketing strategies. Hence, the B2B e-Marketplace with sustainable competitive' marketing technologies becomes increasingly important.

Transparency and Visibility of Information - The abundance of data available in B2B e-Marketplace is intended to make more information about trading party, markets, procurement and competition in the electronic business environment (Angeles and Nath, 2007). In such a transparent environment, buyers/sellers become easier to obtain competitive information. Hence, the investigation of transparency of information in B2B e-Marketplace is crucial to streamline business's information flow.

The main implication from the above studies indicated that organizations need to understand the e-Marketing services provided by B2B e-marketplace that are affecting their business processes to ensure business efficiency in the digital business environment. B2B e-Commerce is clearly a case of evolution as firms grow accustomed to do business electronically. Consequently, the importance of identifying the best selection of e-Marketing services for improved value chain in B2B exchanges is extremely important for business efficiency. However, the literature is limited and most research in the past has been either descriptive or theoretical and often ignoring the linkage with B2B e-Marketing services and e-Business performance.

The main objective for this study is intended to explore B2B e-Marketing services derived from B2B e-Marketplace for SMEs. We adopted Fuzzy PROMETHEE II Method to evaluate the identified criteria, and use the generated results to link to a firm's e-Business performance as follow:

**Step 1: Formulate the fuzzy decision matrix**

Following from the above literature, the study was able to identified four e-Marketing services that have direct impact on successful B2B firms:

- $C_1$  : e-CRM (Zeng et al., 2003; Chaffey, 2004);
- $C_2$  : e-SCM (Zeng and Pathak, 2003; Angeles and Nath, 2007);
- $C_3$  : e-Competitiveness (Eid et al., 2006; Rohm et al., 2004);
- $C_4$  : Transparency and Visibility of Information (Angeles and Nath, 2007).

Five B2B firms denoted by  $T_1, \dots, T_5$  are selected for the4 evaluation. The fuzzy weights and scores are given to alternatives with respect to all criteria in Table 1.

Table 1. Fuzzy Decision Making Matrix for e-Marketing services

Criteria	$C_1$	$C_2$	$C_3$	$C_4$
Value	Max.	Max.	Max.	Max.
$s$	5.5	5.5	5.5	5.5

Weight	(6,7,8)	(8,8,9)	(8,9,9)	(6,6,7)
$T_1$	(7,8,9)	(6,7,8)	(6,7,8)	(7,7,8)
$T_2$	(7,7,8)	(6,8,8)	(7,7,8)	(6,7,8)
$T_3$	(6,7,8)	(6,7,7)	(6,7,7)	(6,7,7)
$T_4$	(8,8,9)	(7,8,9)	(6,7,8)	(7,8,9)
$T_5$	(8,9,9)	(6,7,8)	(8,9,9)	(5,6,7)

**Step 2: Index fuzzy numbers in the fuzzy decision matrix**

The fuzzy decision matrix is “defuzzified” by eq.(2) to the crisp decision shown in Table 2.

Table 2. Decision Making Matrix After Indexing

Criteria	$C_1$	$C_2$	$C_3$	$C_4$
Weight	7	8.333	8.667	6.333
$T_1$	8	7	7	7.333
$T_2$	7.333	7.333	7.333	7
$T_3$	7	6.667	6.667	6.667
$T_4$	8.333	8	7	8
$T_5$	8.667	7	8.667	6

**Step 3: Calculate aggregated preference indices**

With respect to the crisp decision matrix in the above step, the aggregated preference index matrix for the alternatives is shown in Table 3. The Gaussian criterion is chosen for all criteria where the parameter  $s$  for each criterion is presented in Table 1.

Table 3. Aggregated preference index matrix

	$T_1$	$T_2$	$T_3$	$T_4$	$T_5$
$T_1$	0	0.003	0.008	0	0.007
$T_2$	0.001	0	0.006	0.001	0.005
$T_3$	0	0	0	0	0.002
$T_4$	0.008	0.011	0.026	0	0.021
$T_5$	0.017	0.018	0.035	0.016	0

**Step 4: Calculate outranking flow**

Using the aggregated preference indices, the positive, negative and net outranking flows are shown in Table 4. B2B Firms 1 to 3 have negative net outranking flows, and should not be considered, whilst firm 5 ( $T_5$ ) is the best candidate, followed by  $T_4$ . The major reason is that the firm 5 is of better performance in e-Competitiveness ( $C_3$ ) with the highest weight, which offsets the disadvantages in e-CRM ( $C_2$ ), as well as Transparency and Visibility of Information ( $C_4$ ), comparing with the other firms.



Table 4. Outranking flow indices and rank

	$\phi^+$	$\phi^-$	$\phi$	Rank
$T_1$	0.017	0.027	-0.009	3
$T_2$	0.013	0.032	-0.019	2
$T_3$	0.002	0.074	-0.072	1
$T_4$	0.066	0.017	0.049	4
$T_5$	0.087	0.035	0.051	5*

#### 4 CONCLUSION

This study proposes the fuzzy PROMETHEE II for the e-Marketing Services and e-Business Performance. The adopted approach (Yuen and Ting, 2012) modifies the structure of Fuzzy PROMETHEE in (Goumas and Lygerou, 2000) in three aspects: representations of a fuzzy number and a ranking method in the convention way, use of fuzzy weights, as well as use of Gaussian criterion functions. Further study will explore more detailed evaluation dimensions for e-Marketing Services and e-Business Performance, and more comprehensive decision model, for example, integrating fuzzy Cognitive Network Process (Yuen 2009, 2011, 2012) into the further improved Fuzzy PROMETHEE method.

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**An investigation into the factors influencing competitiveness  
of Ready-Made Garment (RMG) supply chain  
- The experience from Bangladesh**

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**ABSTRACT**

Supply chain competitiveness is essential for any industry to survive in the extremely competitive business environment. A number of research studies have been done in different industries about this issue but very limited in RMG or clothing industry. There are some research works about the competitiveness of Bangladeshi Ready-Made Garments (RMG) but study on the competitiveness through analysing RMG supply chain is scarce. This paper aims to investigate the influence of internal factors in the competitiveness of RMG supply chain. An exploratory field study utilizing a qualitative methodology was undertaken by conducting ten interviews in different garment companies of Bangladesh. Content analysis technique has been applied to identify and confirm the factors with their associated variables. After analysis a final research model has been developed and confirmed with link. This study offers a comprehensive model for future research direction and provides its possible implications.

Keywords: RMG, Supply Chain and Competitiveness

# Financial Management II

10:30-12:00, December 16, 2012 (Room 4)

**Session Chair:** *Prof. Jephthe Olimpo Muñoz*

**1699: Financial Statement Analyses Of Publicly Listed Service Corporations Vis a Vis Simulated Start-Up Service Businesses: Basis For Virtual Equity Investments**

*Jephthe Olimpo Muñoz*

*San Beda College*

*University of the Philippines*

**1734: Information Transmission among World Major Gold Futures Markets: Evidence from High Frequency Synchronous Trading Data**

*Rapeesorn Fuangkasem*

*Pornchai Chunhachinda*

*Pornchai Chunhachinda*

*Pornchai Chunhachinda*

*Sarayut Nathaphan*

*Pornchai Chunhachinda*

**1767: Analysis For The Abnormal Behavior Of Companies Listed On Chinese GEM**

*Liu Wei*

*Huazhong University of Science and Technology*

**1654: Testing The Accruals And Cash Flows Anomalies For The Indian Stock Market**

*Sanjay Sehgal*

*University of Delhi*

*Srividya Subramaniam*

*University of Delhi*

*Florent Deisting*

*Group ESC Pau*

**477: Momentum And Industry-Dependence: The Case Of Shanghai Stock Exchange Market**

*Salvio Elias Macha*

*Dongbei University of Finance and Economics*

**FINANCIAL STATEMENT ANALYSES OF PUBLICLY LISTED  
SERVICE CORPORATIONS VIS A VIS SIMULATED  
START-UP SERVICE BUSINESSES:  
BASIS FOR VIRTUAL EQUITY INVESTMENTS**

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**ABSTRACT**

For business students, an appreciation of accounting principles and procedures will be better understood thru actual application. The paper will be a discussion of the results of financial statement analyses, specifically with the use of financial accounting ratios, on the prospective service business ventures to be established by the students on their hypothetical capital. Inversely, students were asked to simulate investment of their “hypothetical capital” in the Philippine Stock Market, specifically the service sub-sector. Individually, students were asked to prepare financial statement analyses on the 19 publicly listed service corporations. The results of the financial statement analyses served as basis in building the virtual equity investment portfolio of each student. Stock returns after a year of equity investment were correspondingly computed in order to determine whether the virtual start-up service businesses provides a higher return on investment (ROI) in comparison to the aggregate of virtual equity investments. The objective of the study was to simulate starting-up a business vis a vis virtual equity investment. The results of the study should strengthen further the relationship of accounting ratios in the investment decision-making process.

The purpose of the survey was to determine the level of understanding that business students have about accounting theory, principles and procedures. Students were asked to conceptualize a service-type of business, prepare the necessary financial statements and correspondingly prepare the financial ratio analysis in their simulated service business. Based on recently uploaded 2011 Annual Report of those 19 publicly listed service corporations, students correspondingly prepared the financial ratios. Consequently, to determine the relationship of stock returns with financial ratios, survey questionnaires were designed in order to describe and establish any inferential statistical relationships. Multiple regressions between stock returns, financial ratios and other controlled variables were carried out accordingly. The results of the study should provide insights as to the value of financial ratios in carrying out equity investment decisions. It is expected that performing companies as reflected in their respective financial ratios will provide higher or optimal stock returns. It will be interesting to see contrasting results between these two investment options as validated thru financial statement analyses between start-up businesses and publicly listed service companies correspondingly realized with maximized stock returns.

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Keywords: Financial Statement Analyses, Start-Up Service Business, Publicly Listed Service Corporations, Virtual Equity Investment

## Information Transmission among World Major Gold Futures Markets: Evidence from High Frequency Synchronous Trading Data

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### ABSTRACT

This study examines the international information transmission among three major gold futures markets namely COMEX, MCX, and TOCOM. Two well documented approaches, which are VECM and information share, are utilized to measure the process of price discovery under this trivariate system. The uniqueness of this study is that it employs synchronous intraday time series which can mitigate the stale price problem from daily observations. The evidences indicate that the three gold futures prices are cointegrated and driven by one common factor. New arrival information disseminates efficiently among the three markets and the pricing information transmission among exchanges is very rapid. However, the lead-lag relationship among markets still exists with the dominance of COMEX gold futures as the centre of price discovery.

Track: Finance

JEL Codes: G15, C32

### 1. INTRODUCTION

Gold is a foundation asset within any long term savings or investment portfolio for centuries. From recent economic difficulties in Europe particularly in Greece, investors have to find a secure place to keep their wealth. Not surprisingly, gold is one of the answers in this situation. The possible reasons that underpin the widespread of interest in gold stem from many aspects: (1) portfolio diversification because correlation of return between gold and equity market is low, investing in gold can diversify risk and portfolios containing gold are generally less volatile than those that do not, (2) inflation and currency hedge because over the long term, gold retains its purchasing power. Also, gold is employed as a hedge against fluctuations in currencies, particularly the USD. A fall in the USD relative to the other main currencies produces a rise in the gold price, (3) risk management because gold is significantly less volatile than most commodities and even much less volatile than many equity indices. Then, gold helps to manage risk more effectively by protecting against infrequent or unlikely but consequential negative events.

Demand of gold for investment purpose is expected to increase dramatically because there is a number of newly coming gold futures markets, exchange traded funds (ETFs), and other innovative products. Nowadays, gold attract many investors' attention and urge them to allocate more weight to gold in their portfolio. Gold has been shifting from inflation protector commodity to a high-return investing asset as it yields 25.04%, 29.24%, and 8.93% annual return in 2009, 2010, and 2011 respectively.

Gold price keeps rallying and reaches its peak, approximately 1,900 USD/oz in August 2011. Gold prices are also determined by demand and supply dynamic. On demand side as shown in Table 1, gold consumption comes from three major sectors; jewelry, technology and investment. On the other side, there are three major gold suppliers; gold mine production, central bank activity and gold recycling.

Table 1: World Gold Demand and Supply during 2009 and 2011

Year	2009		2010		2011		2011 vs 2010
	Tonne s	%	Tonne s	%	Tonne s	%	% change
<u>Demand</u>							
Jewelry	1,814	50%	2,017	50%	1,963	48%	-2.68%
Technology	410	11%	466	12%	464	12%	-0.43%
Investment	1,396	39%	1,568	39%	1,641	40%	4.66%
Total demand	3,620	100%	4,051	100%	4,068	100%	0.42%
<u>Supply</u>							
Total mine supply	2,371	58%	2,600	62%	2,822	71%	8.54%
Central bank activity	34	1%	-77	-2%	-440	-11%	-
Recycled gold	1,695	41%	1,641	39%	1,612	40%	-1.77%
Total supply	4,100	100%	4,164	100%	3,994	100%	-4.08%

Source: Thomson Reuters GFMS

Gold differs from other agricultural commodities. The major uniqueness of this precious metal is standardize, durability, and storability. No matter where gold are traded, they have the same fundamentals. Although there are differences in purity, contract specification, or trading currency, gold price tends to exhibit the same pattern. According to Harris et al., (1995), markets in which traded assets are fundamentally related to each other is termed as informationally linked markets. To the same concept, gold or any derivatives of gold that are traded on different exchanges can be applied to this concept. Moreover, informationally linked market concept is binding to cointegration mechanism stating that any assets that share the same fundamental should have long run relationship. Then, it is expected that no matter what gold is traded in any markets, prices will be linked to one another and they should be equal. Otherwise, there will be arbitrage opportunities by simultaneously buying relatively low price and selling relatively high price. Undoubtedly, arbitrageurs and speculators would pay close attention to pricing relationship of these commodities across markets around the world. gold's standard quality and storage characteristics enable arbitrage in cross-market trading. It seems apparent that the gold price reflects global forces rather than local factors. Therefore, this paper shows how information is transmitted across markets in international setting and which market does the price discovery take place.

Price discovery is one of the key functions of market microstructure. Schreiber



and Schwartz (1986) defined price discovery as the search for an equilibrium price. Baillie (2002) defined price discovery as gathering and interpreting news. Lehmann (2002) described it as the process by which efficient and timely incorporation of new information implicit in investors' trades is priced into market prices. The implicit efficient price is assumed to be driven only by new information because it already fully reflects all information available at the current time. All of these interpretations suggest that price discovery is a dynamic process in search of equilibrium state which is characterized by the fast adjustment of market prices from old equilibrium to the new equilibrium with the arrival of new information. As a result, the concepts of price discovery and market efficiency are tied together. The efficient market hypothesis requires no arbitrage opportunities and market prices that quickly reflect any new information affecting fundamental values. Also, market efficiency describes the arrival speed of market consensus or equilibrium price, there are many possible explanations why observed asset prices generally depart from their underlying efficient values. One of rational explanations is the existence of market frictions and the limitation of investors to process information set with precision. Distinct transaction costs, regulations, liquidities, and other institutional factors make different contribution to price discovery. Understanding the dynamic nature of the price discovery process is important, because it reflects information transmission across markets, thereby providing an indication of price efficiency. Theoretically, when two informationally linked markets are faced with the new information arriving simultaneously, these markets should react simultaneously and uniformly. When both markets do not react contemporaneously, one market reacts faster and leads the other. The leading market provide price discovery and the securities in the other markets are mispriced, at least temporarily. Security prices will eventually converge to equilibrium price set by the leading market.

The purpose of this paper is to investigate price discovery and information transmission among three major gold futures exchanges namely COMEX (US), MCX (India), and TOCOM (Japan). Since India has been stepping into global gold futures market and has become one of the world highest trading volumes, literature investigates these relationships after the coming of new gold futures player has rarely been studied. The organization of this paper is as follows: Section 2 represents selected literature reviews, Section 3 illustrates how intraday synchronous trading data is constructed, Section 4 describes the approaches for price transmission and price discovery measures, Section 5 analyzes the empirical results, and Section 6 concludes this paper.

## **2.LITERATURE REVIEWS**

In the equity market area, US markets are thought to play a leading role in price transmission among informationally linked exchanges. Many literatures provide evidences that US financial markets including derivatives markets transmit information to other markets than the other way around [Eun and Shim (1989), Kwan et al. (1995), Ghosh et al. (1999), and Fung et al. (2001)]. Price discovery and information transmission in informationally linked markets have been extensively examined in the literature. There are two major groups of price discovery literatures. The first approach, the temporal precedence or bivariate relationship between futures return and spot returns is explored by using lead-lag return regression, Vector Autoregressive regressions (VARs), or Vector Error Correction Models (VECMs). The second approach presumes that securities must share one or more common factors and the proportion of price discovery contribution can be determined.

Although there are a number of literatures regarding price discovery process, the majority of research investigates these relationships between spot equity index market return and futures index market return. The majority of studies state that futures market is the leading market [Kawaller et al. (1987), Stoll and Whaley (1990), Flemming et al. (1996), Pizzi et al. (1998)]. The possible explanation for the lead of futures market is that investors face lower transaction costs. Fleming et al. (1996) provide the evidence that support this statement. They find that the relative rates of price discovery in the cash and futures markets are due to difference in trading costs. Their empirical results support the trading-cost hypothesis that markets with lower trading costs will react more quickly to new information and tend to lead those with higher trading costs in price discovery. De Jong and Donders (1998) found that stock index futures leads the cash index partially due to lower trading costs in the futures market. Wang and Yau (2000) showed that a transaction cost, which is similar to a greater bid-ask spread, would reduce trading volume. Another possible explanation is that futures market enables investors to have higher degree of leverage.

The other approach presumes that securities must share one or more common factors and the proportion of price discovery contribution can be determined. Based on use of vector error correction model (VECM), information share model are developed by Hasbrouck. Hasbrouck (1995) defines price discovery in terms of the variance of the innovations to the common factor. The information share model measures each market's relative contribution to this variance. This contribution is called the market's information share. More intuitively, the market with highest level of information share implies the leading role in the process of price adjustment.

Although there are a number of researches investigating information transmission between spot market and futures market in the domestic settings, papers investigating this relationship across countries are really limited. Summary of research development related to gold cases will be mentioned as follows.

Starting with Dhillon, Lasser, and Watanabe (1997), they initiate an hourly comparison of gold futures price volatility in international setting. The price data in this study is comprised of open, close, high, and low futures trading prices for nearby gold futures contracts of COMEX and TOCOM from July 1987 through May 1992. There are three subsamples in this study; (1) July 1987 to October 1989 represents a subsample in which Japanese market is characterized by Walrasian-type trading and relatively low volume, (2) November 1989 to March 1991 also represents Walrasian-type trading<sup>71</sup> but a comparatively higher TOCOM volume, (3) April 1991 through May 1992 represents the continuous TOCOM trading with the highest volume compared with others. The evidences indicate that TOCOM price in continuous trading markets exhibit greater intraday volatility than prices generated in Walrasian auction markets. In addition, more information appears to be released in gold markets during US trading hours relative to Japan.

Xu and Fung (2005) examine patterns of cross-market information flows for gold, platinum, and silver futures contracts traded on both US and Japanese markets. Xu and Fung extend study of Dhillion et al. (1997) in several ways. First, three precious

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<sup>71</sup> The Walrasian auctioneering method of price determination consists of six discrete trading sessions (evenly separated from 9.00 to 15.30) in which an agreed upon price was decided for each commodity by competitive bidding. The auctioneer would then either raise or lower the price until there were an equal number of sell and buy orders, at which point a trade was recorded at that price, thereby ending the session.

metals futures contracts dual-listed in US and Japanese markets between 1994 and 2001 are investigated, instead of comparing the volatility within these two markets as in the case of Dhillon et al.. In this study, Xu and Fung apply a bivariate ARMA-GARCH model to investigate the market linkages. The bivariate ARMA-GARCH model allows simultaneous analysis of the pricing transmission and volatility spillover. Second, both daily and intraday information flows are analyzed. Since US and Japanese are in different time zones, one market opens in the next of the closing of the other market. Trading information in US market can be investigated the effect toward the opening price when Japanese market opens following the closing of the US market. Inversely, it can be investigated how trading information in Japan after the market closes affects the opening price of the US market. Finally, US and Japan are mutually regarded as financial center of global precious metal futures market. This study would shed lights on which country has more important information and on the direction of information transmission across the two markets for these three precious metal futures. Sample period starts from November 1994 to March 2001. The daily open and close prices of the metals futures in Japan are adjusted to US dollars using daily exchange rate. The results indicate that the pricing transmission across US and Japan is strong and significant. The US information appears to play a leading role in the futures market. Results of the volatility analyzes indicate that both US and Japanese market receive important information from the other market, and there are strong feedback effects across the two markets. Significance of the feedback appears to be similar, implying that both market have similar influence on the other market.

Bhar and Hamori (2004) investigate the pattern of information flow between the percentage price change and the trading volume in gold futures contracts. The daily NYMEX settlement price data from January 3, 1990 to December 27, 2000 are the sample period. The AR\_GARCH model is used because of its suitability to futures contracts. Schwarz Bayesian information criteria (SBIC) are used to choose the final model from various possible AR-GARCH specifications. The lag order of AR part or the conditional mean dynamic is chosen to be 5 for price data and 10 for trading volume data. For the conditional variance dynamics, it is specified as a GARCH (a,b) model where a is the number of ARCH terms and b is the number of GARCH terms. The GARCH (2,1) model is chosen for the percentage price change, while the GARCH (1,1) model is chosen for trading volume. The results from this study show that the information flows between the price change and trading volume affect not only their mean movements but also volatility movements in these markets. The variance of the percentage price change has an effect on the percentage price change variance, which is indicative of the sequential information linkage. This evidence is different from those found earlier for other commodity futures.

Chaihetphon and Pavabutr (2009) examine the price discovery process of gold futures contracts in the Multi Commodity Exchange (MCX) of India over the period of 2003 to 2007. Vector error correction model is employed to show that futures price of standard and mini gold futures contract lead spot price indicating that price discovery occurs in the futures market. Also, this study compares the contributions to price discovery of standard and mini gold futures contracts traded on electronic platform. Although mini contract captures only 2% of trading value on the MCX, it contributes to approximately 37% to price discovery.

Furthermore, Liu and An (2011) investigate information transmission and information share for copper and soybean in Chinese spot, Chinese futures market, and US futures commodity markets. Daily data of copper and soybean for spot market is obtained from Shanghai Metal Market and a state-owned internet information

company respectively. For futures market, data of Chinese copper and soybean is retrieved from Shanghai Futures Exchange (SHFE) and Dalian Commodity Exchange (DCE) and data of US copper and soybean is retrieved from NYMEX and CBOT respectively. The sample period is from January 2, 2004 to December 31, 2009. The trading hours of Chinese spot markets do not overlap at all with those of NYMEX or CBOT markets. In contrast, US copper and soybean futures are traded almost 24 hours a day, then their trading time covers the entire trading period of Chinese futures markets (SHFE and DCE). Thus, there is both overlapping and non-overlapping trading hours. To make data for Chinese and US futures price comparable, the daily closing price of NYMEX and CBOT futures contracts are converted into RMB per ton. To examine information transmission, the VECM-GARCH model and information share approach are used. The evidences show that the proportions of the information share attributed to the Chinese futures, Chinese spots and US futures are 39%, 18%, and 43% respectively for copper while the corresponding numbers for soybeans are 40%, 18%, and 42% respectively. Therefore, US futures markets contribute most to the price discovery process.

To summarize, most studies on international linkages across futures markets of the same underlying asset suggest that there are stronger international market linkages in highly traded commodities as compared to relatively less traded commodities. Moreover the developed markets (in terms of volume and number of derivatives products) play dominant role in price discovery process.

### 3 DATA CONSTRUCTION

In term of trading volume, the three major markets: COMEX, TOCOM, and MCX dominate the world gold futures trading. Trading volume of these three exchanges is shown in Table 2. Trading volume is standardized in a unit of million troy ounces. It is clear that COMEX still dominate world gold futures trading while TOCOM and MCX share the global gold futures trading volume around 8 to 10 percents.

Table 2: Trading Volume of Three Major Gold Futures Markets

Year	COMEX		MCX**		TOCOM**	
	Volume (m t oz)*	Percent (%)	Volume (m t oz)*	Percent (%)	Volume (m t oz)*	Percent (%)
2009	3,517.62	80.78	437.91	10.06	399.14	9.17
2010	4,479.08	84.26	436.70	8.21	400.15	7.53
2011	4,931.98	82.88	491.13	8.25	527.48	8.86

Remark: \* Aggregate trading volume in each exchange is in million troy ounces.

\*\* MCX and TOCOM trading volume is converted from kilogram to troy ounce

(1 troy ounce is equal to 31.1034768 grams).

Source: COMEX, TOCOM, and MCX

Since there are more-than-one gold futures contracts traded in each market, we use the most liquid gold futures contract to create data set. Then, for all markets, the standard contracts are chosen. The details of each gold futures contract specification are shown in Table 3.

Moreover, when any futures contract reaches its maturity date, the following futures series will be used instead. The retrieved trading prices from Bloomberg Pro for each market are quoted in its domestic currency. Also, they are quoted in different

unit of gold measurement. Gold futures contract is quoted in USD per troy ounce in US, JPY per gram in Japan, and INR per 10 grams in India. To make price of gold futures comparable, prices of MCX and TOCOM are converted to price in USD per troy ounce format<sup>72</sup>.

Table 3: Details of the Gold Futures Contract Specifications

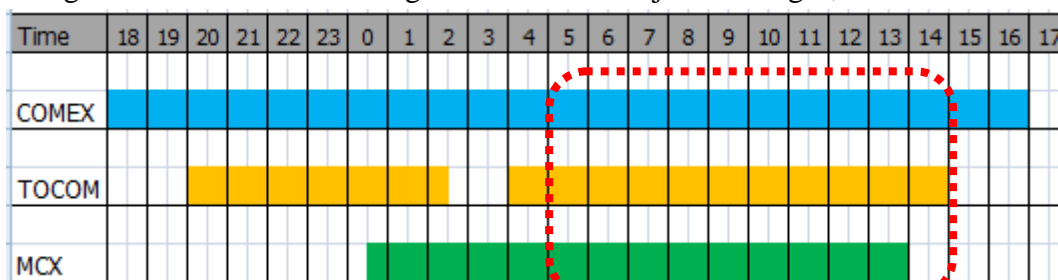
	COMEX	TOCOM	MCX
Year of trading	1974	1982	2003
Underlying asset	Fine gold bar	Fine gold bar	Fine gold bar
Contract size (Standard)	100 t oz	1 kilogram	1 kilogram
Quality specification	0.995 purity	0.995 purity	0.995 purity
Price quote	USD per t oz	JPY per gram	INR per 10 grams
Tick size	USD 0.10 per t oz	JPY 1 per gram	INR 1 per 10 grams
Settlement type	Physical delivery	Physical delivery	Physical delivery

Source: COMEX, MCX, TOCOM

According to Fung, Leung, and Xu (2001), they show the evidence that the strong interactions in term of pricing are observed from US futures market and other futures exchanges. The key conclusion is that the cross-market pricing transmission values from the US to other market are comparatively larger than those from the other way around. Thus, Fung, Leung, and Xu (2001) show evidences that US market plays a leading role in term of pricing information transmission across market. However, the majority of the researches including Fung, Leung, and Xu (2001) use daily data to examine this relationship. Although there are some studies use close-to-open price (meaning that using close price of US market and open price of the other market) to reduce the trading time different between market, the non-synchronous problem still exists due to the stale price of the close or open trade used in previous studies. To mitigate this shortcoming and to obtain more precise measurement of information flow across markets, 5-minute intraday analysis is applied in this research. Since the US gold futures market has been operating almost 24 hour a day but those of Japan and India are not. There are both overlapping and non-overlapping trading hour. To investigate the price transmission across markets in simultaneous trading time, we select only overlapped trading times among three exchanges. Due to time zone difference, the time of Japanese market and Indian market located is converted to New York time. After matching, there are 10 hours per one trading day of synchronized trading time of these three markets.

<sup>72</sup>  $MCX \text{ (USD per t oz)} = 1 \text{ gram price of gold in Japan} \times 31.1034768 / (\text{INR/USD})$   
 $TOCOM \text{ (USD per t oz)} = 10 \text{ gram price of gold in India} \times 31.1034768 / (\text{JPY/USD}) / 10$   
 (1 troy ounce = 31.1034768 grams)

Figure 1: Gold futures trading hours of three major exchanges, New York time



Remark: Trading hours of TOCOM and MCX are converted into New York time before making a comparison.

For gold futures trading hours, COMEX operates almost 24 hours a day but has a 45-minute break starting from 5.15 P.M. to 6.00 P.M., MCX has operating hour from 10.00 A.M. to 11.30 P.M., Mumbai time (0.30 A.M. to 2.00 P.M., New York time), and TOCOM has 2 trading session per day. The day session start from 9.00 A.M. – 3.30 P.M., Tokyo time (8.00 P.M. of previous day to 2.30 A.M., New York time) and the night session start from 5.00 P.M. – 4.00 A.M. of the following day, Tokyo time (4.00 A.M. to 3.00 P.M., New York time). To construct overlapped time series dataset, we use 5 minute interval data set from 4 A.M. to 1 P.M., New York time. It is worth to mention that this data set is selected on the bias to COMEX and TOCOM. For COMEX and MCX, the selected trading time is partially in an out-of-normal local business time (approximately 5 of 9 hours). This selection bias is more pronounced in Japan case because the synchronous trading hours are all in night session in Tokyo time. This might be the case because many financial institutions who might be the major players in price discovery contribution are close.

Because our purpose of study is to investigate the price discovery and information transmission among markets, the observed data should be collected in the highly volatile period which we can precisely identify which market does the price discovery take place. Thus, we select the observed period starts from April 2011 to August 2011. The intraday futures returns are constructed from the futures price data as  $\log(P_t/P_{t-1})$ , where  $P_t$  is the futures price at time  $t$ . For calculating the 5-minute intraday return, if there is no trading at the end of the 5 minutes, the closest trading price prior to the end of the 5 minute is used as the closing value of that 5-minute interval. If any of the markets experience a holiday or missing data interval, the data for that day or interval will be omitted for all three markets. After making these adjustments, 8,066 observations remain.

Table 4: Summary Statistics of Five-minute Intraday Data

Stat	COMEX			MCX			TOCOM		
	Price (USD)	5-min Return (%)	Daily Return (%)	Price (USD)	5-min Return (%)	Daily Return (%)	Price (USD)	5-min Return (%)	Daily Return (%)
Mean	1,532	1.8E-05	0.0012	1,555	1.9E-05	0.0010	1,534	1.9E-05	0.0007
Med	1,523	0.0000	0.0016	1,543	0.0000	0.0007	1,525	0.0000	0.0008
Max	1,682	0.0156	0.0334	1,705	0.0191	0.0248	1,688	0.0268	0.0432
Min	1,416	-0.0321	-0.0315	1,431	-0.0348	-0.0276	1,419	-0.0595	-0.0562
Std	56.01	0.0009	0.0085	52.50	0.0009	0.0070	57.17	0.0013	0.0092
Obs	8,066	8,065	261	8,066	8,065	261	8,066	8,065	261

After converting price of MCX and TOCOM, we end up with gold futures price quoted in USD per troy ounce in the purity of 0.995 (reported in Table 4). On average, the highest gold futures prices are originated in Indian market at the value of USD 1,555 while price of gold futures in US and Japan are almost the same at the value of USD 1,532 to 1,534. The returns of gold futures contract in high frequency data are extremely low. The average returns of COMEX, MCX, and TOCOM are 0.0000018, 0.0000019, and 0.0000019 respectively. In daily interval, the average return is 0.0012, 0.0010, and 0.0007 for COMEX, MCX, and TOCOM respectively.

Moreover, it can be seen that prices of gold futures are not exactly the same in any exchange. This is basically because the different in domestic risk-free rate for each country and this interest rate is generally used to calculate futures price. Not surprisingly, US and Japan that are facing economic recession have lowest domestic interest rate. Then, they would yield relatively lower gold futures price. In contrast, due to higher interest rate comparative to the remaining, MCX gold futures prices keep standing on the highest values.

## 5.METHODOLOGY

As the possibility to allow for the simultaneous analysis of return in the model, we employ a multivariate vector error correction model to investigate the lead lag relationships among gold futures that are traded in the US, Japanese, and Indian futures markets. This section explains the VECM model used in this study for analyzing information transmission in term of price in informationally linked gold futures markets.

### 5.1 Multivariate VECM

To examine patterns of price transmission across various markets, we apply multivariate VECM approach to describe price interactions among various markets. If the futures prices traded in these three markets are cointegrated, short run relationship or price transmission can be explained through vector error correction model.

The vector error correction model (VECM) is written as

$$r_{1,t} = \mu_1 + \sum_{i=1}^p \alpha_{1,i} r_{1,t-i} + \sum_{j=1}^q \beta_{1,j} r_{2,t-j} + \sum_{m=1}^s \gamma_{1,m} r_{3,t-m} + \theta_1 (P_{2,t-1} - P_{1,t-1}) + \tau_1 (P_{3,t-1} - P_{1,t-1}) + \varepsilon_{1,t} \quad (1)$$

$$r_{2,t} = \mu_2 + \sum_{i=1}^p \alpha_{2,i} r_{1,t-i} + \sum_{j=1}^q \beta_{2,j} r_{2,t-j} + \sum_{m=1}^s \gamma_{2,m} r_{3,t-m} + \theta_2 (P_{1,t-1} - P_{2,t-1}) + \tau_2 (P_{3,t-1} - P_{2,t-1}) + \varepsilon_{2,t} \quad (2)$$

$$r_{3,t} = \mu_3 + \sum_{i=1}^p \alpha_{3,i} r_{1,t-i} + \sum_{j=1}^q \beta_{3,j} r_{2,t-j} + \sum_{m=1}^s \gamma_{3,m} r_{3,t-m} + \theta_3 (P_{1,t-1} - P_{3,t-1}) + \tau_3 (P_{2,t-1} - P_{3,t-1}) + \varepsilon_{3,t} \quad (3)$$

where

$P_{1,t}$ ,  $P_{2,t}$ , and  $P_{3,t}$  are the logarithmic prices of COMEX, MCX, and TOCOM gold futures contracts on date  $t$ , respectively.

$r_{1,t} = P_{1,t} - P_{1,t-1}$ ,  $r_{2,t} = P_{2,t} - P_{2,t-1}$ , and  $r_{3,t} = P_{3,t} - P_{3,t-1}$  correspond to respective

returns of these futures. Moreover, it is also assumed that  $\varepsilon_t = (\varepsilon_{1,t}, \varepsilon_{2,t}, \varepsilon_{3,t})^T$  |

$\Omega_{t-1} \sim t(0, \Sigma_t)$ .

$\Omega_{t-1}$  is the information set at  $t-1$ ,  $\Sigma_t = \{\rho_{i,j} \sigma_{i,t} \sigma_{j,t}\}$  is the 4 x 4 time-varying

conditional covariance matrix and  $\rho_{i,j}$  is the conditional correlation coefficient

between error terms  $\varepsilon_i$  and  $\varepsilon_j$

This approach is widely used in the literatures, including Liu and An (2011), to describe price interactions among various informationally linked markets. This adjusted multivariate VECM can capture both the short term and long term effects of information flow across markets. To be more specific, short term effects ( $\theta, \tau$ ) are reflected by cross-market lagged returns in these equations, and long term effects ( $\alpha, \beta, \gamma$ ) are captured by long-run equilibrium errors, defined as the difference in the last period's market prices between any two markets. If the estimation results of these long term effect terms are significant, we can infer that other markets can predict return in this market. To further explain the equation above, the error correction terms ( $\theta, \tau$ ) measure the speed of adjustment. At least, one of those terms ( $\theta_1, \theta_2, \theta_3, \tau_1, \tau_2, \tau_3$ ) is anticipated to be non-zero and statistically significant to prove that the prices of these gold futures are responsive to last period's equilibrium error. Any significant positive  $\theta$  or  $\tau$  implies that a change in this particular exchange results in price adjustment in other markets. Price discovery is supposed to occur in this market and it also implies that this exchange is a leading market. On the other hand, any significant negative  $\theta$  or  $\tau$  implies that this market reacts to the price change from other markets. However, in this multivariate case, if there are more-than-one significant positive error correction terms, the relative magnitude of any coefficients will judge which one is the leading market.

## 5.2 Price discovery contribution

In addition, this paper examines the proportion of price discovery of major gold futures markets by following Hasbrouck (1995) information share procedure. Hasbrouck's model extracts the price discovery process using the variance of innovations to the common factor. This approach uses cointegration to restrict multiple market prices to share a common efficient price and both approaches use a VECM for estimation purposes.

Hasbrouck information share model considers the contributions of innovations in each market to the total variance. Recall Engle and Granger's (1987) VECM;



$$\Delta Y_t = \Pi Y_{t-1} + \sum_{i=1}^k A_i \Delta Y_{t-i} + \varepsilon_t \quad (4)$$

where  $Y_t = P_{1,t}, P_{2,t}, P_{3,t}$ . Also,  $\Pi = \alpha\beta^T$ , and  $\alpha$  and  $\beta$  are  $n \times (n-1)$  matrices. Each column of  $\alpha$  is the error correction terms, and matrix  $\beta$  consists of the  $n-1$  cointegrating vectors. The residuals  $\varepsilon_t$  are serially uncorrelated and have a covariance matrix denoted by  $\Sigma$ . Then, Equation 4 above can be transformed into an integrated form of a vector moving average (VMA) as follows

$$Y_t = Y_0 + \Psi(1)\left(\sum_{i=1}^t \varepsilon_i\right) + \Psi^*(L)\varepsilon_t \quad (5)$$

where (1) is a column vector of ones in a trivariate system,  $\beta^T\Psi(1) = 0$ ,  $\Psi(1)\alpha = 0$ , and  $\Psi^*$  is a matrix polynomial in the lag operator. The  $\Psi(1)\left(\sum_{i=1}^t \varepsilon_i\right)$  term captures the random walk component that is permanently impounded into gold prices while the  $\Psi^*(L)\varepsilon_t$  term is the transitory component with zero-mean and stationary covariance which does not have a permanent impact on  $Y_t$ . The implicit efficient price is denoted by the common stochastic trend in cointegrating system. Hasbrouck (1995) defines a market's contribution to price discovery as its proportion of the efficient price innovation variance, i.e.  $\text{var}(\psi\varepsilon_t)$ , that can be attributed to innovations in that market. Let  $\psi = (\psi_1, \psi_2, \dots, \psi_n)$  be the identical row of  $\Psi(1)$ . If covariance matrix  $\Sigma$  is diagonal, the information share of a price series  $j$  is defined as the proportion of market contribution to the total variance given by,

$$IS_j = \frac{\psi_j^2 \sigma_{jj}}{\psi \Sigma \psi^T} \quad (6)$$

Equation 6 is a case when price innovations across markets are uncorrelated. If the covariance matrix is not diagonal, then the information share is given by

$$IS_j = \frac{([\psi F]_j)^2}{\psi \Sigma \psi^T} \quad (7)$$

where  $F$  is the Cholesky factorization of  $\Sigma$  and it is the lower triangular factorization.  $[\psi F]_j$  is the  $j$ -th element of the row vector  $\psi F$ .

Baillie et al. (2002) show the average of the lower and upper bounds of the estimates of  $IS_j$  in a bivariate system is a reasonable estimate of a market's contribution to price discovery. In the case of our trivariate system, we use the mean of the information shares from all orderings as the estimate of market's contribution to price discovery.

## 6. EMPIRICAL RESULTS AND RESEARCH FINDINGS

At first, the cointegration analysis is employed to detect long-run dynamic relationships among these price series before examining the information transmission pattern. Cointegration theory suggests that two non-stationary series having same stochastic trend, tend to move together over the long run (Engle and Granger, 1987). However, deviation from long run equilibrium can occur in the short run. The Johansen full information multivariate cointegrating procedure [Johansen (1991), and

Johansen and Juselius (1990)] is widely used to perform the cointegration analysis. It can only be performed between the series having same degree of integration. The null hypothesis of at most  $r$  cointegrating vectors against a general alternative hypothesis of more than  $r$  cointegrating vectors is tested by trace Statistics.

Table 5: Johansen Trace Test for Cointegration

Log price series	Hypothesis	Trace statistic	0.05 critical value
COMEX, MCX, TOCOM	$r=0$	114.94	24.28
	$r \leq 1$	23.98	12.32
	$r \leq 2$	2.90	4.13

Remark:  $r$  stands for the number of cointegrating vectors and the number of cointegrating vectors can be at most two because there are three series in each test.

The result in Table 5 shows that the gold futures prices of COMEX, MCX, and TOCOM are cointegrated with two unique cointegrated relationships as  $r \leq 2$  is significant at the 5% level. In addition, they are all driven by one common stochastic factor. This test for cointegrating vectors ensures that each series can be represented by an error correction model.

### 6.1 Results on VECM

To determine the optimal lag lengths, we follow the method of Xu and Fung (2005) that check the model with the lag number of one, two, and three. From table 6, we find that the model with two lags yields the lowest Bayesian information criterion (BIC). Consequently, we consider the two-lag model as the most rational model specification.

Table 6: Lead-lag Relationships for Three Major Gold Futures Markets

Panel A: Estimated results of COMEX equation

Equation (1)	$\alpha, \beta, \gamma$						$\theta, \tau$	
	Own-market return		Cross-market return (MCX)		Cross-market return (TOCOM)		Error correction terms	
	Lag 1	Lag 2	Lag 1	Lag 2	Lag 1	Lag 2	vs MCX	vs TOCOM
COMEX	0.0882 <sup>a</sup> (4.72)	-0.0479 <sup>a</sup> (-4.87)	-0.7049 <sup>a</sup> (-29.56)	-0.2353 <sup>a</sup> (-16.34)	0.0132 <sup>c</sup> (1.84)	-0.0095 (-1.35)	0.0012 <sup>a</sup> (2.64)	-0.0004 <sup>b</sup> (-2.50)

Panel B: Estimated results of MCX equation

Equation (2)	$\alpha, \beta, \gamma$						$\theta, \tau$	
	Own-market return		Cross-market return (COMEX)		Cross-market return (TOCOM)		Error correction terms	
	Lag 1	Lag 2	Lag 1	Lag 2	Lag 1	Lag 2	vs COMEX	vs TOCOM
MCX	-0.3265 <sup>a</sup> (-11.43)	-0.1206 <sup>a</sup> (-7.05)	-0.3245 <sup>a</sup> (-14.52)	-0.1855 <sup>a</sup> (-15.73)	-0.0305 <sup>a</sup> (-3.55)	-0.0358 <sup>a</sup> (-4.26)	0.0052 <sup>a</sup> (3.87)	0.0052 <sup>a</sup> (4.44)

Panel C: Estimated results of TOCOM equation

Equation (3)	$\alpha, \beta, \gamma$						$\theta, \tau$	
	Own-market return		Cross-market return (COMEX)		Cross-market return (MCX)		Error correction terms	
	Lag 1	Lag 2	Lag 1	Lag 2	Lag 1	Lag 2	vs COMEX	vs MCX
TOCOM	-0.6693 <sup>a</sup> (-59.80)	-0.3348 <sup>a</sup> (-30.63)	0.1698 <sup>a</sup> (5.83)	0.0844 <sup>a</sup> (5.50)	-0.0959 <sup>a</sup> (-2.58)	-0.0567 <sup>b</sup> (-2.54)	-0.0104 <sup>a</sup> (-5.92)	0.0226 <sup>a</sup> (7.30)

Remarks: a, b, and c are significant at the 1, 5, and 10 % level, respectively and t-statistic values are in parenthesis.

To interpret which market is the leading market, we compare coefficients of the return of each market ( $\alpha, \beta, \gamma$ ) in a pair setting (COMEX vs MCX, COMEX vs TOCOM, and MCX vs TOCOM). A positive and significant error correction term shows that a change in return in this market results in price adjustment in the other and implies that this is the leading market. In the case that both markets have positive sign of coefficient value, leading market is market that has higher coefficient value.

At first, we compare the coefficients of cross-market return between COMEX and TOCOM which is in Equation 1 and Equation 3. The cross-market lag return of TOCOM in Equation 1 is significant only in lag 1 at the value of 0.0132 whereas the cross-market lag returns of COMEX in Equation 3 are significant in both lag 1 and lag 2 at the value of 0.1698 and 0.0844 respectively. It is implied that a change in return of COMEX pronounces more effects to TOCOM than the other way around ( $0.1698 > 0.0132$ ). In other words, COMEX leads TOCOM.

For the pair of COMEX and MCX, the coefficients of cross-market lag return between Equation 1 and Equation 2 are compared. The cross-market lag return of MCX in Equation 1 are significant in both lag 1 and lag 2 at the value of -0.7049 and -0.2353 whereas the cross-market lag returns of COMEX in Equation 2 are also significant in both lag 1 and lag 2 at the value of -0.3245 and -0.1855 respectively. Due to negative sign of coefficient value, interpretation in this case does not make any sense.

For the pair of MCX and TOCOM, the coefficients of cross-market lag return between Equation 2 and Equation 3 are compared. Although the cross-market lag returns are significant, they are all in negative value. Thus, we can conclude that there is a bidirectional but asymmetric information transmission between COMEX and MCX and between MCX and TOCOM. Up to this point, the lead-lag relationship for the two latter cases still cannot be determined.

In addition, it is noted that cross-market coefficients of lagged return measure the short-run impact of one market on another. The coefficients of lagged intraday return of own-market and cross-market on Equation 1, Equation 2, and Equation 3 are non-zero and significant in almost all cases excepting the lagged return of TOCOM toward the US return on the Equation 1. These evidences suggest that information flows rapidly among three gold futures exchanges, and that trading information from one market (especially for COMEX and MCX) can be impounded into the others within 5-minute trading time. This is not surprising, given that any temporary mispriced gold futures contracts can be heavily arbitrated across markets, this 5-minute interval is reasonably more than enough to make riskless profits.

Furthermore, another important measure to investigate the lead-lag relationships is the coefficients of the error correction terms ( $\theta$  and  $\tau$ ) that reflecting the price adjustment toward the long-run equilibrium relationship between any two of these three exchanges. To approach equilibrium price, market with higher error correction term value would correct its price in a higher degree of price adjustment or it implies that this market is not a leading market. In contrast, market that yields the lowest coefficients of the error correction terms is a leading market. At first, our results from table 7 show that the coefficients of  $\theta$  and  $\tau$  terms in all three equations are significant at the 1% level. Therefore, it suggests that any market reacts with respect to all markets to maintain equilibrium. Moreover, the significance of the error correction terms supports the results from Johansen cointegration test in Table 6. After comparing the coefficients of the error correction terms, those in Equation 1 are significant with the lowest magnitudes (-0.004 for COMEX and TOCOM and 0.0012 for COMEX and MCX). This implies that COMEX responds to any new arrival information at the lower level of price adjustment. Moreover, the highest magnitudes of these terms ( $\theta$  and  $\tau$ ) come from Equation 3. This confirms the evidence that TOCOM gold futures prices tend to adjust in much higher level to correct disparity across market than do MCX or COMEX prices.

## 6.2 Result of Hasbrouck information shares

On the ordering of variables basis, the average information shares of all ordering to measure the price discovery function of each gold futures market are reported in Table 7.

Table 7: The estimates of the information shares

	COMEX	MCX	TOCOM
Information shares (%)	37.09	34.66	28.25

Remark: The estimates are obtained from the means of all ordering of variables in the Cholesky factorization of the residual covariance matrix.

The information shares of COMEX (37.09%) are more than those of MCX (34.66%) and TOCOM (28.25%). Thus, COMEX still captures the most contribution to price discovery. This suggests that US play relatively more important role than Indian and Japanese market, and is a global leader in the gold futures market.

## 7. CONCLUSIONS

This paper investigates information transmission across major gold futures markets located on three different regions (COMEX, MCX, and TOCOM). The main concept of this research is no matter where gold futures traded, they share the same underlying asset. The majority of researches in price transmission area examine this relationship via spot and futures markets. Then, there will not be any issue because trading hours of spot and futures exchanges are the same or mostly overlapped. However, in the case of price discovery investigation based solely on futures markets across nations, one should be concerned with non-overlapped trading times. For equity listed in more-than-one exchanges across nations, researcher could not use price information from the same trading time because of time zone difference. However, after extending trading hour in gold futures market, the trading hours of these three markets are synchronized. To apply synchronous data series, we can precisely identify the lead-lag relationship among exchanges. The 5 minute intraday price data from April to August 2011 are applied to two well documented approaches

classifying directions of information flows and news processing abilities among markets. Consistently with many literatures (Xu and Fung, 2005) which use daily data in their analysis, we find the price series on three gold futures exchanges (COMEX, MCX, and TOCOM) are cointegrated suggesting that these price series are driven by the same fundamentals. Based on synchronous data, both VECM and Hasbrouck approach indicate that COMEX play a dominant role in global gold futures trading. Therefore, we conclude that the US gold futures market is the most efficient in processing information. Its role on price discovery and information transmission can be attributed to COMEX's massive trading volume.

The Hasbrouck model indicates that the futures in the three countries contribute close to one another (COMEX = 37.09, MCX = 34.66, and TOCOM = 28.25). This suggests that although COMEX appears to mostly contribute in price discovery, information transmission across three gold futures markets is extremely rapid. This can be supported by the VECM result. During the 5 minute information transmission, only the first lag is significant implying that the trading information of the offshore market is completely impounded in the gold futures price within 5 minutes.

Our study adds to the finance literature of inter-market analysis. It highlights the importance of US gold futures markets and provides alternative insights into the dynamic behavior of information transmission in the global gold system. This evidence is important for any market participants in this era of gold investment.

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## Analysis for the abnormal behavior of companies listed on Chinese GEM

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### 1 Description of GEM listing companies' abnormal behavior.

The basic corporation finance theory tells us that the initial public offering and listing of businesses are the basic tools to accelerate their development through equity financing. Theoretically, researchers should observe that companies, after listing or listing on GEM, are supposed to show a faster growth rate due to their large-scale equity capital. However in the whole process of listing for companies listed in GEM, researchers observe a series of unusual corporation behaviors, including pre-IPO "surprise shares", "wealth effect" in the process of IPO and the "executives to resign" after the IPO.

Researchers could have an intuitive understanding for these phenomena through descriptive statistics and case studies.

#### 1.1 Surprise shares for companies before IPO on GEM

Through preliminary statistics for share changes of 117 companies listed on GEM from October 30, 2009 to September 2, 2010, the author observed the surprise share phenomenon in the GEM listed companies. The author defines surprise share by three criteria. First, there is capital increase or transfer around 12 months before submitting the company's listing application. Second, the usage of the increased fund is not clear. Third, the new shareholders have no direct connection with the company's business. Through statistics, 19 companies are believed to have "surprise shares" and are shown in the following table

Table 1. GEM listing Companies might have "surprise shares"

Stock	When share change	Listing time	Share transfer to listing(Month)	Transferee
TGOOD	2009.6	2009.10	3	Institution
Ultrapower	2009.5	2009.10	5	Institution
Chinanetcenter	2009.9	2009.10	1	Institution
Zhongyuanhuadian	2009.1	2009.10	9	Institution
Enjoyor	2009.3	2009.10	7	Institution
Gifore	2009.3	2009.10	6	Institution&Person
Bode	2009.3	2009.10	7	Natural person
Geeya	2009.6	2009.10	3	Institution&Person
Improve	2009.4	2009.12	8	Institution
CISRI-Gaona	2009.5	2009.12	7	Institution
HWA Creat	2009.2&4	2010.1	9	Natural person
WBD	2009.5	2010.2	9	Natural person
Highlander	2009.3&6	2010.3	9	Institution



Spearhead	2009.4	2010.4	12	Natural person
OXIRAN	2009.6	2010.5	11	Institution&Person
SHENGYUN	2009.6	2010.6	12	Institution
DAGANG	2009.6	2010.8	14	Institution
SUNOWE	2010.6	2010.8	14	Natural person
Shenzhen EWP	2009.12	2010.9	10	Institution

Source: "Evolution of share capital since the establishment of the companies " of the GME listed companies, finished by hand by the author.

The author takes Ultrapower as the example to demonstrate the pre-IPO surprise share phenomenon.

Ultrapower (300002) was listed on Shenzhen Stock Exchange GEM on October 30, 2009. It is one of the first 28 companies listed on GEM. From the establishment till March 2009, Ultrapower equity shares were increased and transferred inside the company among the founders, core management team and technical staff. All shares involved are free of charge or at the price of 1yuan/share.

In March 2009, the company issued internal shares for medium managers, technicians and core managers. On March 18, 2009, the company's first extraordinary general meeting approved increase investment program. 3,632,000 shares capital was increased at cash and subscription price was 2.5 Yuan/share. The main subject of the subscription is the medium management team, technical staff and core managers. A total of 29 persons participated in the subscription and subscription quantity varied from 20,000 shares to 960,000 shares.

In May 2009, the company introduced venture capital .On May 18, the company signed "Share Subscription Agreement" with Huijin Cube Capital Management Ltd. and Stone Investment Co.,Ltd respectively. It was agreed that Huijin would invest cash 35,640,000 yuan and subscribed 2,700,000 shares. Stone would invest cash 27,720,000 yuan and subscribed 2,100,000 shares at the price of 13.20 yuan per share. The Huijing Cube is a wholly owned subsidiary of Huijing Cube Investment Center, which was established in May 2008 at the registered capital of 50,010,800 yuan. It is a risk investment consultant management company. Stone Investment Company is a wholly owned subsidiary of CITIC Securities Co.,Ltd. The latter's parent company, CITIC Securities is the sponsor of Ultrapower to be listed on GEM. The chairman of Stone Investment is also the vice general manager of CITIC Securities. Other two directors of Stone Investment Company are also vice general managers of CITIC. The replenishment happened less than 6 months to the listing of Ultrapower on GEM. Through the replenishment, the Huijin Cube and Stone hold 2.85% and 2.22% of the shares of Ultrapower respectively.

From the case of Ultrapower surprise shares, it can be seen that security direct investment and sponsorship business may be one of the causes for surprise shares. Furthermore, it can be seen from table 2 that brokerage direct investment has strong relationship with sponsors. According to Wang Yixuan's research, in eight brokers direct investing GEM listed companies, there are six brokerage direct investments related with the sponsors among 8 cases of brokerage direct investment. In other two cases, "CICC sponsored Oriental Net Wealth. In that process, CICC had plan to

directly invest. But CICC required 10 times PE in the gold shares, while Oriental Wealth asked for 24 times PE. They failed to agree with the price, so HaitongKaiyuan got involved at 24 times PE."

Table 2 The corresponding of security direct investment and sponsorship institution in GEM share investment

Company	security direct investment	Sponsorship	corresponding
Ultrapower	Goldstone	CITIC	Y
Enjoyor	HAITONG	HAITONG	Y
SIASUN	Goldstone	CITIC	Y
Improve	GUOSEN	CINDASC	N
KOTL	GUOSEN	GUOSEN	Y
CISRI-Gaona	GUOSEN	GUOSEN	Y
Eastmoney	HAITONG	CICC	N
Sanchuan	GUOSEN	GUOSEN	Y

Source : Wang Yixuan, Institution Behavior Characters and Problems in GEM investment ;Securities Market Herald Issue 11, 2010

What's more, the author could examine the comparison of the investing time among the institutions from table 3. From investment to the listing on the GEM, the average time of brokerage investment is only 9 months, far below that of Venture Capital whose average investment time is 2 years and 4 months and private institutions whose average investment time is 2 years and 5 months.

Table 3. GEM company share investment period comparison

	Ave time (m)	Earliest	Latest	Invest post 2007
institutions	2 7	1999.09	2009.07	86.92%
VC	2 8	1999.09	2009.06	84.52%
PI	2 9	2000.12	2009.06	89.47%
Security	9	2008.05	2009.07	100.00%

Source : Wang Yixuan, Institution Behavior Characters and Problems in GEM investment ;Securities Market Herald Issue 11, 2010

## 1.2 "Wealth effect" in the process of listing on GEM

There is amazing wealth effect on GEM, which can be seen through frequently reported billionaires born from GEM. The author simulated 113 companies listed on GEM to be listed on Nasdaq Stock Market and compared the median level wealth with the real data to illustrate the GEM's ability to create wealth. For comparison convenience, the author took the book wealth of the founders as the object and restored to the first day of listing. Because of different classification of GEM and Nasdaq, the author chose only 73 listed companies, whose wealths are comparable. With GEM's 66 times PE, medium level wealth of the founders' book wealth for companies listed on GEM reached 1.061 billion. While the PE ratio of Nasdaq at the same period of time is 18.3 times, the founder's book wealth is only 294 million for same companies simulated listed on Nasdaq. Please see the comparison in the following graph.

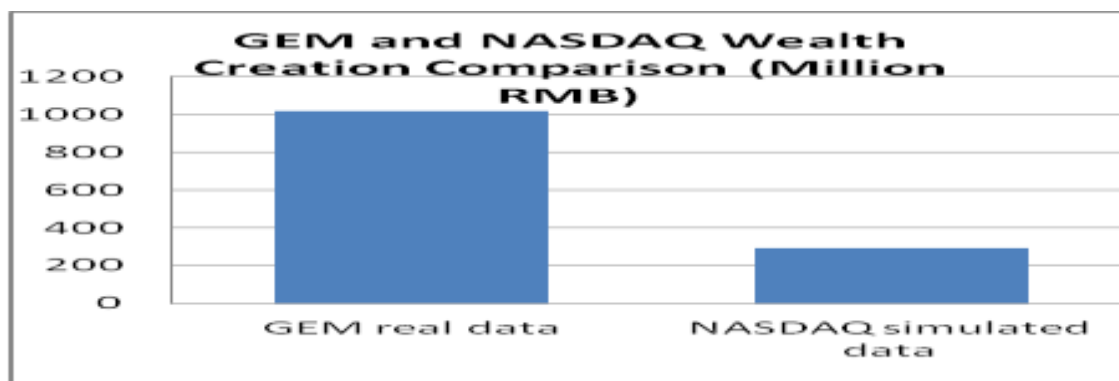


Figure 1. Wealth Creation Ability Comparison between GEM & NASDAQ  
Source : The Founder, Oct, 2010

The following data is coming from the media reports: There were 113 companies listed on GEM till September 1, 2010. The researcher is looking at the shareholders who held shares before IPO. There were 406 nature persons whose direct holding shares' market value is over 100 million Yuan. There were 471 nature persons listed in the top 20 shareholders whose direct holding shares' market value is over 10 million Yuan. Summing up the two groups, there were 877 persons whose book wealth is over 10 million Yuan. Considering the situation of the controlling shareholders or the actual controllers, the average actual controller and his/her family's wealth reached 1.545 billion. The share cost for venture shareholders, original shareholders and late shareholders is converted in accordance with the price of net assets. Therefore the cost is very low.

Studying the institutions investing the companies listed on GEM, especially the "surprise shares" institutions who invested just before listing, the companies listed on GEM bring significant wealth effect to the institutional investors. Table 4 shows some institutional investment to companies listed on GEM, their earnings appreciated almost 12 times calculated according to the stock issue price. While calculated according to the market value of the first day closing price, their value appreciated almost 18 times. For institutions investing the companies planned to list in 2009 with possible "surprise shares", their investment appreciated as high as 10 times in less one year.

	Cost/share	List price	1 <sup>st</sup> day price	Return time at listing price	Return time at 1 <sup>st</sup> day price
All Inve	4.08	33.39	48.68	11.88	17.55
Before					
2007	1.82	35.44	50.52	26.39	35.36
2007	3.13	28.68	41.04	11.38	16.99
2008	4.3	32.98	50.22	9.82	15.19
2009	7.38	42.52	60.11	5.95	9.79

Table 4. Institution investment's cost & return in GEM

Source : Wang Yixuan, Institution Behavior Characters and Problems in GEM investment ;Securities Market Herald Issue 11, 2010

### 1.3 "Executives resignation" after company's listing on GEM

#### 1.3.1 Case study for executives' resignation

As of October 29, 2010, there were at least 14 companies involved in "executives resignation" problems among the first 28 companies listed on GEM. In at least 9 of the companies, their resigned executives are executives holding shares. We focused on Robot Co., because its number of resigned executives is the largest (4) in all the companies with resigned executives. And all of Robot's resigned executives were directors and supervisors, meanwhile were shareholders. Although the four executives left after their terms, they could reduce their shares just after lifting of the ban which ended on November 1. According to data released by Shenzhen Stock Exchange, from November 1 to November 4, the Robot was the company with highest trading volume on the Shenzhen Stock Exchange block trading platform, with the total turnover of 145 million yuan. According to Robot's "Notice about reduction by shareholders who hold over 5%", Stone Investment Co., reduced 3 times, with total turnover 2,0874 million Robot's shares. According to Robot's "Description of evolution on the company's share capital since the establishment", Stone Investment got involved as institutional investor in May 2008. Therefore, we take the Robot as an example of the "executive resignation".

There were 4 persons involved in Robot's "executive resignation". They were Wang Xiaogang (former director) who held 162,300 shares, Li Zhaoci (former Chairman of the Supervisor Board) who held 126,600 shares, Ren Haijun (former supervisor) who held 160,200 shares and Gao Wei (former supervisor) who held 34,500 shares. These four persons obtained the shares when the four founding shareholders transferred their 4,828,200 shares at the price of 0.625 yuan/share in October 2007. The four founding shareholders were Wang Tianran, Zhang Nianzhe, Qu Daokui and Hu Binde. They transferred their shares according to the notice from Shenyang Institute of Automation to excite the medium managers. Researchers could compare the four company executives' return on investment, as shown in Table 5 below:

Table 5 Investment return of 4 executives

Former Executives	Previous position	Qty (share)	Book profit (Yuan)	Return (times)
Wang Xiaogang	Director	162300	6517157	65
Li Shangci	Chairman BOS	126600	5083623	65
Ren Haijun	Supervisor	160200	6432831	65
Gao Wei	Supervisor	34500	1385348	65

Source : The Share Change Description of SIASUN Robot & Automation Co., Ltd, with the calculation and sorting of the author

The last column in the table shows the return on investment. Researchers could see very substantial return on investment, 65 times. Although the four executives resigned after their terms, their leaving time is quite subtle. According to "Company Law", Article 142: The directors, supervisors and senior managers of the company shall declare to the company the shares held by them and the changes thereof. During the term of office, the shares transferred by any of them each year shall not exceed 25% of the total shares of the company he holds. The shares of the company held by the aforesaid persons shall not be transferred within 1 year as of the day when the stocks of the company get listed and are traded in a stock exchange. After any of the aforesaid persons is removed from his post, he shall not transfer the shares of the company he holds. Because the company is listed on October 30, 2009, the

shareholders can transfer their shares after October 30, 2010, according to Company Law. Because the four executives resigned in April, they were exactly allowed to underweight their shares. All their shares came from internal motivation, but they all resigned after their terms. As executives, the core internal staff of the company, they knew the company much better than the common public. And they knew the true situation and the future trends of the company more accurately. At the same time, as institutional investor invited by the company, Stone Investment (whose parent company is CITIC Securities) also reduced their shares of Robot after 2 years of holding. The institutions have more experiences and more professional analysis capabilities, so relatively they can determine the company's operations and growth prospects better. So reduction by executives and institutional investors means they looked down upon the future of the company because they know the internal information which common investors cannot know. Or the reduction simply means they are more rational than the average investors and they believe the company's share price largely deviate from the value of the company.

### 1.3.2 Descriptive statistics of executives' resignation of companies listed on GEM

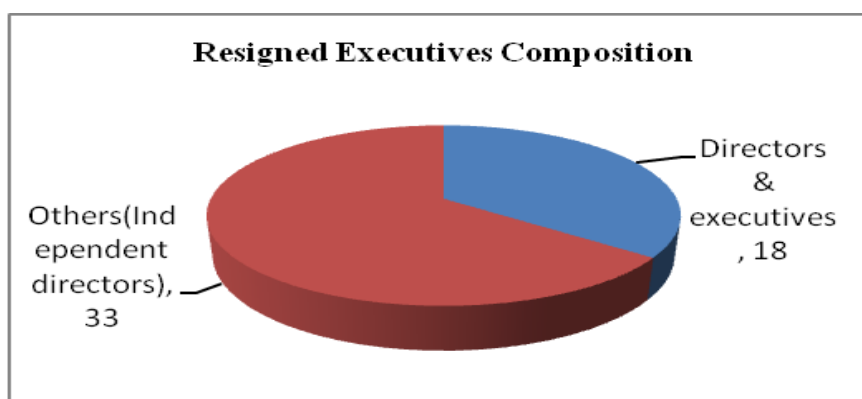


Figure 2 Composition of resigned executives

Source : Shanghai Securities News. Oct 28<sup>th</sup>, 2010

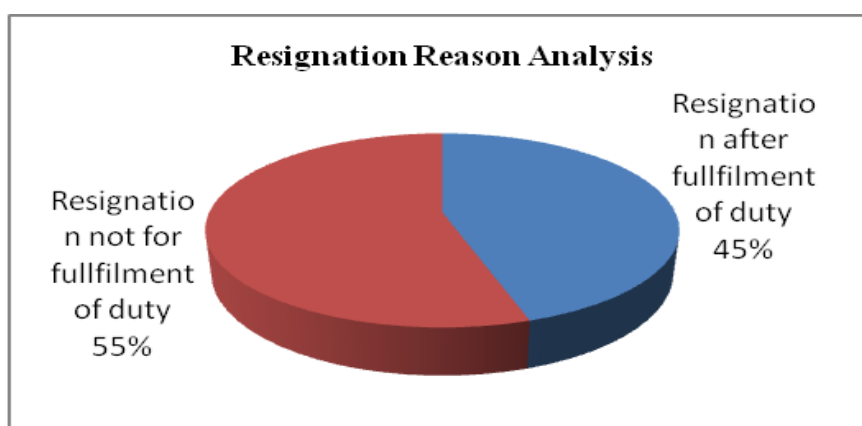


Figure 3 The reasons for resignation

Source : Shanghai Securities News. Oct 28<sup>th</sup>, 2010



Figure 4 Review of shares hold by resigned executives

Source : Shanghai Securities News. Oct 28<sup>th</sup>, 2010

Considering the abnormal behaviors of the companies listed on GEM, the author tries to discuss the mechanism causing these behaviors. Two possible hypotheses were proposed to explain these abnormal behaviors.

**Hypotheses A:** there are significant differences in market conditions and other market rules between GEM board and main board (including SME sector). And these differences led to differences in the value and governance of the companies. The executives and institutional investors have the internal information; therefore the fundamental differences are the reasons for such abnormal behaviors.

**Hypotheses B:** there is no essential difference between the companies listed on GEM board and the companies listed on main board. But the public sentiment is different to different markets, that makes the companies listed on GEM seriously overvalued (price bubble). So the abnormal behaviors of these companies are rational behaviors when the executives of companies listed on GEM and institutional investors faced the stock price bubble. They seek to maximize their own benefits.

## **2. To verify hypotheses A: differences in companies' fundamentals caused the abnormal behaviours of the companies.**

To verify hypotheses A, the author first needs to compare the fundamentals of the companies listed on GEM board and those listed on Main board.

### **2.1 The differences of the listing rules may cause the fundamental differences of the companies**

Considering the listing rules, the author lists the differences between the rules of companies listed on GEM board and those listed on Main board below.

## **Table 6**

Listing conditions	A-share board	GEM
Profit requirement	<p>1. The net profits in the last three fiscal years shall be positive and exceed RMB 30 million in aggregate; the net profits shall be calculated on the basis of the lower of the net profits before and after deducting non-recurring profits and losses;</p> <p>2. The net cash flow from business operation in the last three fiscal years shall exceed RMB 50 million in aggregate; or the business revenue in the last three fiscal years shall exceed RMB 300 million in aggregate;</p> <p>3. There shall be no loss that has not been made up as at the end of the last reporting period.</p>	<p>it has been either profitable for the last two years with net profits totaling at least 10 million RMB for the last two years and the expectation of sustaining growth, or shall have been profitable for the previous year with a net profit of at least 5 million RMB and business income of at least 50 million RMB and the growth rate of the business income for the last two years of at least 30% (the net profit shall be calculated on the basis of the amount before or after deducting the non-recurring profit and loss, whichever is smaller);</p>
Directors and management	No major change in the latest 3 years	No major change in the latest 2 years
The actual controller	The actual controller have not been changed in the latest 3 years	The actual controller have not been changed in the latest 2 years

Furthermore, the author makes deeper analysis by comparing the financial situation and capital structure for the companies listed on the two markets. As samples, the author select the 95 companies listed on GEM during October 30, 2009 to July 28, 2010, and 143 companies listed on SME sector during the same period. Researcher will compare companies' operating life, registration capital, assets and liabilities, operating profit, return on assets (ROA) and return on equity (ROE) respectively.

According to statistics, the average size of the companies listed on SME is about two times that of the companies listed on GEM in the view of the registered capital and assets. The financial leverage (debt ration) of the companies listed on SME is about two times that of the companies listed on GEM. There is no big difference between the companies listed on the two boards considering average operating years. The average operating years of the companies listed on GEM is 6.18 years, and that of the companies listed on SME is 6.43 years. Considering average operating profit, companies listed on GEM performed better than those listed on SME. When comes to return on assets and net assets ratio, there is no big difference between average performances for companies listed on two boards.

Table 7 Financial indicator comparison between SME and GEM companies

	GEM	SME
Register Capital	950 M	1710 M
Assets	1010 M	1841 M
Debts	130 M	459 M
Asset-liability	13.21%	24.94%
Operating Profit	20.21%	14.38%
RROA	2.83%	3.09%
ROE	3.33%	3.97%
Net Asset per Share	8.49	8.66
Current Ratio	16.88	7.52

Source: 2010 middle year report data from CSMAR Solution. The original data have been calculated and sorted by the author

In addition, the author compares the level of profitability and growth of the companies listed on the two boards more directly through considering the operating income up and net profit up in interim report. Here the researcher selects 192 companies listed on SME which are listed during the restart of SME IPO in 2009 to September 1, 2010. Two of them are excluded for non-comparable of interim results in 2009. So we select 190 companies altogether. At the same period, there were 117 companies listed on GEM, and 105 of them whose interim results can be compared with the data of 2009. The results are shown below:

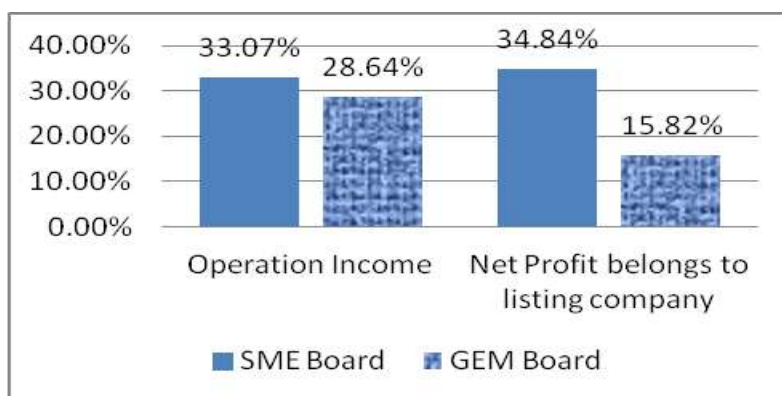


Figure 6 Middle year operation income and net profit increase comparison between SME & GEM companies

Source : National Business Daily

The companies listed on GEM are not as good as those listed on SME either in operating income or in net profit growth. But these financial data cannot show significantbad systemic differences between the companies listed on GEM and those listed on SME. Therefore, the researcher believes that the financial data



cannot reflect a significant difference in company quality for the companies listed on GEM and those listed on SME.

## 2.2 Company governance comparison between different stock markets

### 2.2.1 Share structure comparison

The researcher observed the ownership structure of the companies listed on GEM, Shanghai A shares, Shenzhen A shares and SME. The data were described in Figure 7 and Figure 8. It is obvious that the largest shareholders of companies listed on GEM hold relatively small portion, and the top ten shareholders of companies listed on GEM hold relatively a higher portion. But overall, the shareholding percentages of shareholders of companies listed on GEM and SME are almost the same. Take a look at the direct controlling shareholder's portion. The number of the companies listed on GEM is 38.68% and that of companies listed on SME is 40.91%. There is no big difference.

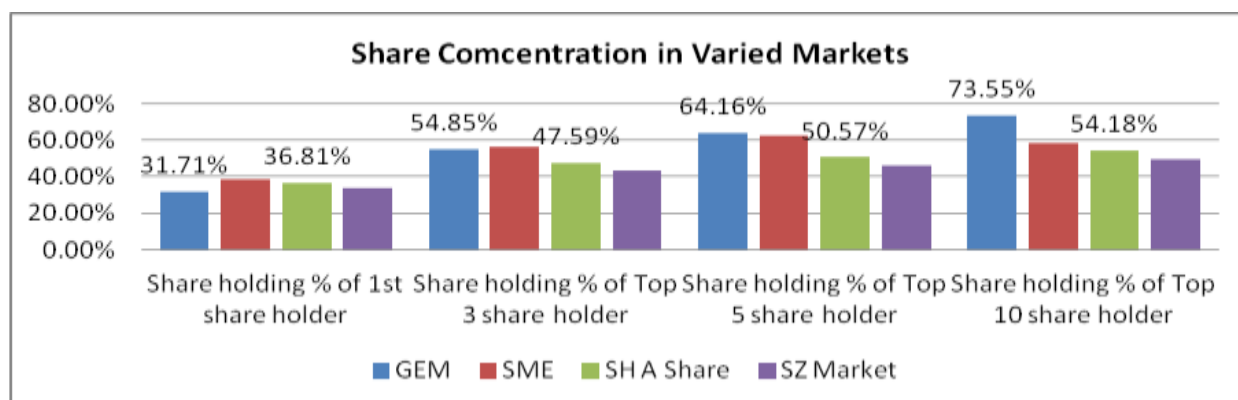


Figure 7 Share concentration comparison in varied market

Source : CSMAR Solution and calculated and sorted by the author

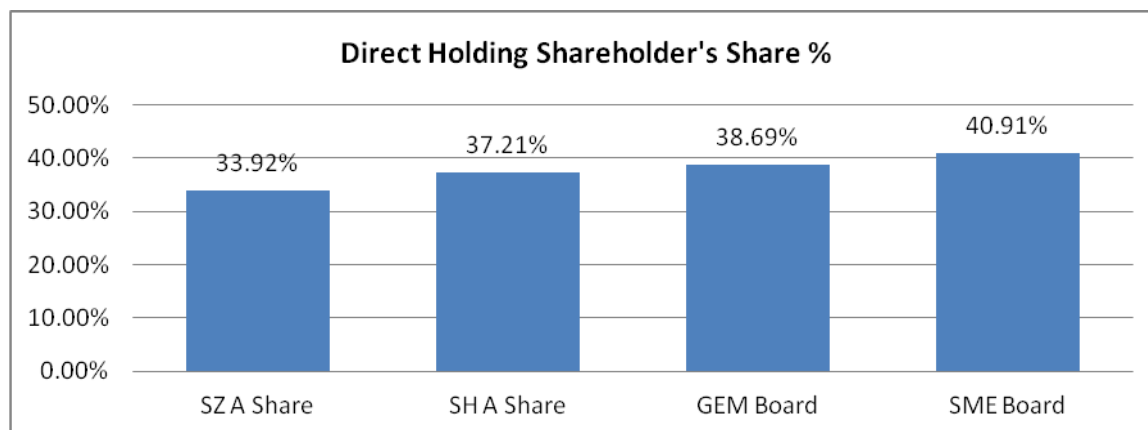


Figure 8 Share percentage comparison of holding stockholders in varies stock markets

Source : CSMAR Solution and calculated and sorted by the author

Furthermore, the author examines the part-time situations of Chairmen and general managers of companies listed on GEM and SME. The companies listed during October 30, 2009 to February 11, 2010 are selected as samples. 54 companies listed on GEM and 57 companies listed on SME are selected. Details are shown below

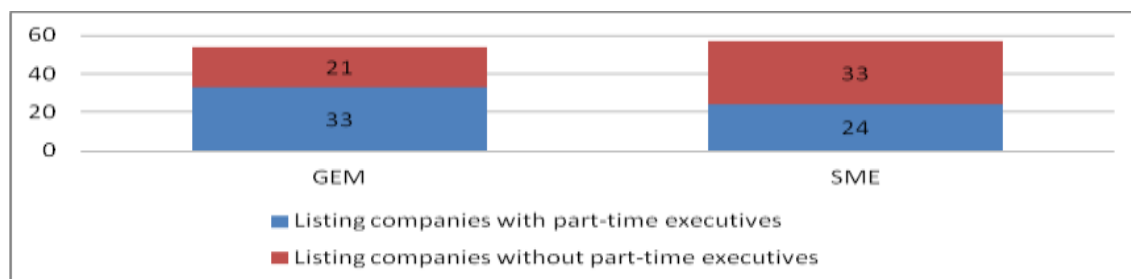


Figure 9 Summary of part-time situation of chairman and general managers in GEM and SME companies

Source : CSMAR Solution and calculated and sorted by the author

It can be seen through comparison that the part-time situations of chairmen and general managers are quite common in the companies listed on GEM and SME; and are higher than the situations of the companies listed on the main board. But companies listed on GEM and those listed on SME are quite similar in this area. 55.93% chairmen and general managers of 54 companies listed on GEM have part-time situation. On SME, 42.1% chairmen and general managers of 57 companies have part-time situation.

### 2.2.2 Comparison of equity incentives mechanism design

Equity incentives for directors and executives unify the interest of owners and managers and bind the interest of executives and shareholders together. This should be good news for the investors. Nonetheless, there are problems in the companies listed on GEM. First, relatively few companies practiced equity incentive. According to media, 17 companies listed on GEM announced their equity incentive programs as of the end of November 2010. That is 17% of the companies listed on GEM at the period of time. Second, a lot of companies concentrated equity incentive at the end of a year. In the 17 companies mentioned before, 11 of them announced their equity incentive programs in November. Third, the threshold is too low. It looks like some kind of "bribe" according to the public opinion. That is why the companies' share price went down instead of up after the announcement. The relative information of the companies listed on GEM who announced their equity incentive programs are shown below:

**Table 8** GEM Companies releasing incentive option schedule

Stock	Incentive	Shares (K Share)	Option price (Yuan)
Toread	Option	2652.9	22.35
Shuanglin	Stock	2180	20
Ginghan	Stock	3030	19.33
Bluefocus	Option	7000	32.92
HWA Creat	Option	2000	37.5
Ningbo GQY	Option	5000	28.88
Savings	Option	2080	42.51
RASTAR	Option	1700	32.1
East Money	Option	3300	53.7
AIER	Option	9000	41.58
Ultra Power	Option	4500	60.31

Toread	Option	2652.9	22.35
Huaxing	Option	1700	24.1
ZZ Sino-Crystal	Option	2720	25.84
Narada	Option	8000	33
Origin Water	Option	4000	91.95

Source : Phoenix Money , 2010-12-6

We also sum up the equity incentives of companies listed on SME from October 30, 2009 to compare the governing structure better. The data are shown below:

**Table 9 SME Companies releasing incentive option schedule**

Stock	Incentive	Share (K Share )	Option price (Yuan )
Oriental Landscape	Option	2000	129.98
Haid	Option	16650	32.15
Shanghai Pret	Option	3000	39.92
Hongtao	Stock	4000	17.49
Fuanna	Option	3000	34.24
Canny-Elevator	Stock	9000	15.81
Yasha	Option	4100	65
SNBC	Option	1500	45.09
Kaiser	Stock	940	18.38
SMTC	Option	7037	25.65
FAST Print	Option	1800	60

We can roughly see that the companies listed on GEM and those listed on SME choose almost the same way of equity incentives. Compared to the restricted stock equity incentives, the companies prefer stock options more to stimulate the directors, executives, core technical staff and middle managers, etc. So it seems that the equity incentives do not support hypotheses A. In other words, the abnormal behaviors are not caused by the fundamentals of the companies.

### 2.2.3 Comparison for other governance mechanisms

The author carries out a survey for the companies' board size and the proportion of independent directors, so as to get a more comprehensive comparison for the governance of companies listed on GEM and SME. Here, the researcher takes the 2009 annual report of the companies as the data source. 54 companies listed on GEM and 58 companies listed on SME at the same period are selected for analysis, while their data are comparable. The basic situation of the samples is shown below:

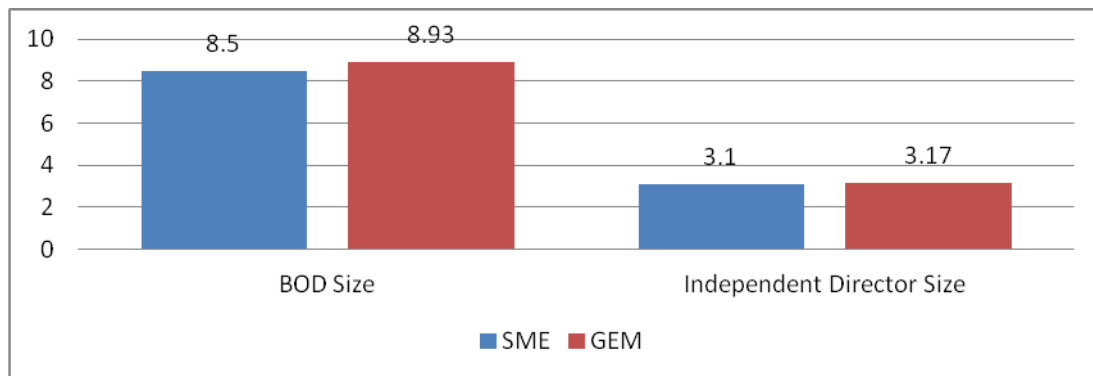


Figure 10 BOD size and separate director comparison in SME and GEM companies

Through comparison, it could be found that the board size and the proportion of independent directors are not significantly different between the companies listed on GEM and SME. This finding means director and independent director element do not support hypotheses A either.

### 3 Verify hypotheses B: abnormal behaviors are caused by differences in price bubble level

The author compared the companies simultaneously listed on GEM, Shanghai A-share and SME to find out whether the different market rules caused the significant differences between the behaviors of the companies listed on GEM and those listed on the main board of Shanghai and Shenzhen stock exchange. The following variables are compared: the fully diluted price-earnings ratio calculated by the issue price, the average monthly market price-earnings ratio, the cumulative subscription ratio of on-line issue, the cumulative subscription ratio of off-line issue and the interim results

#### 3.1 Comparison of the static price-earnings ratio

The author selected companies initially public offered from October 29, 2009 to November 15, 2010. The author compared the fully diluted price-earnings ratio calculated by the issue price and the average monthly market price-earnings ratio by simple average method. The results are shown below:

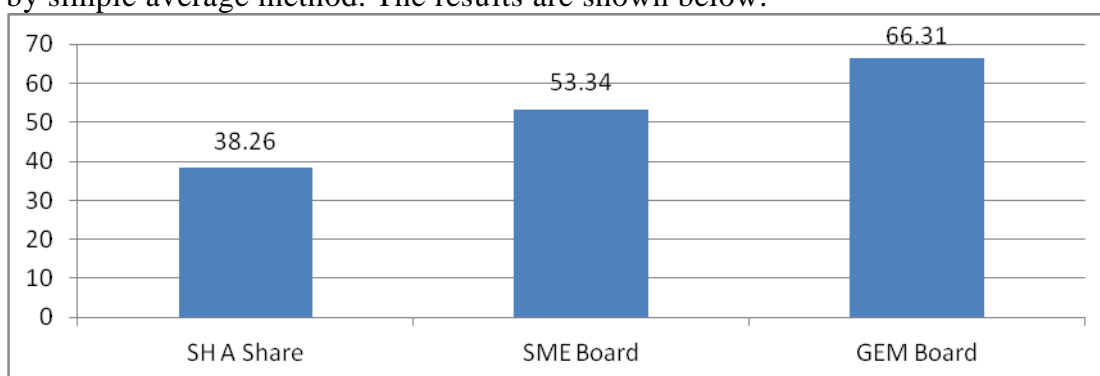


Figure 11 Fully Diluted Price to Earning Ratio Comparison in Varied Markets

Source: IPO pricing, Off-line issue pricing and lot winning rate notification of Shenzhen SME, GEM and Shanghai A share.

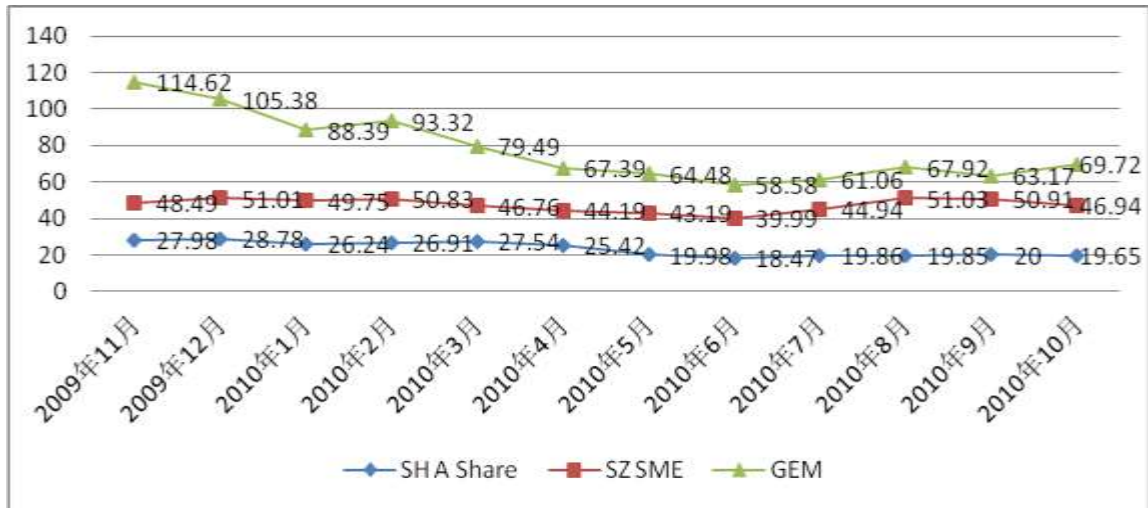


Figure 12 Price/Earnings to Growth Ratio comparisons in varied markets  
Source : Zero2IPO Research Center, Netease Money

### 3.2 Comparison of the prime market issuance

Here the researcher compares the cumulative subscription ratio of on-line issue and the cumulative subscription ratio of off-line issue of the companies listed on Shanghai A-share, SME and GEM during October 29, 2009 to November 15, 2010. Since the over-subscription ratio largely reflects the economy situation of IPO market and the institutions' recognition for IPO market, it can reflect the level of sought after by the investors of three markets. Specific data are shown below:

The over-subscription ratio of SME and GEM market is much higher than that of Main board represented by Shanghai A-share. And the over-subscription of SME is higher than that of GEM. However this does not necessarily indicate that the subscription of IPO on SME is far more popular than that of GEM. The reason is that the over-subscription of IPO market is largely reflected by the institutional investors. And the institutional investors participate in the SME less than GEM. The information disclosure by Shenzhen Stock Exchange disclosure shows that investment from individual investors account for 45% of Shenzhen A-share market capitalization. Specifically the percentage from individual investor is 43% of main board, 48% of SME and 70% of GEM. It means that individual investors participate more in GEM

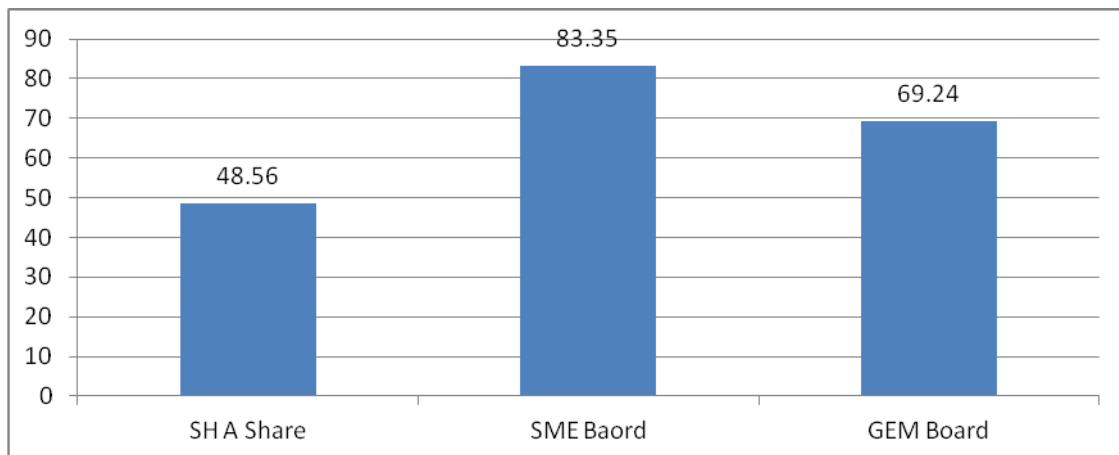


Figure 13 Off-line subscription times comparison from Oct 29, 2009 to Nov 15, 2010

Source : CSMAR Solution;

IPO pricing, Off-line issue pricing and lot winning rate notification of Shenzhen and Shanghai stock market.

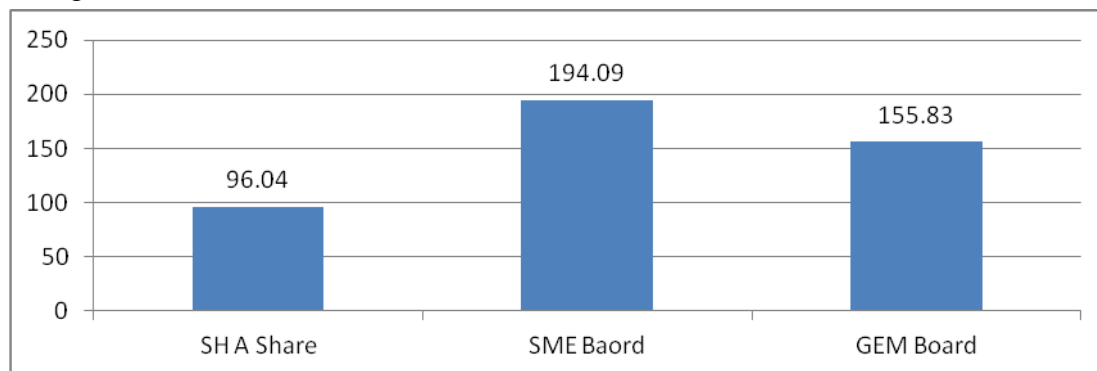


Figure 14 IPO on line over-subscription ratio comparison from Oct 29 2009 to Nov 15 2010 in varied markets

Source : CSMAR Solution;

IPO pricing, Off-line issue pricing and lot winning rate notification of Shenzhen and Shanghai stock market.

Although companies listed on SME sector have higher over-subscription ratio, the conclusion could be draw from the following table that the mean of the first day stock return ratio for companies listed on GEM is 55.9%, around 10% higher than that of SME. There are more institutional investors in the process of issue and subscription and more individual investors in the first day stock transaction after listing. This fact indicates that the stock price on GEM might be affected more by the investor sentiment.

Table 10 The first day stock return in GEM and SME comapies %

Indicator	Min	Medium	Mean	Max	Stand Deviation	Sample size
1 <sup>st</sup> day return rate of GEM	-9.9	45.2	55.9	209.7	44.5	90
1 <sup>st</sup> day return rate of SME	-7.5	37.1	47.2	275.3	45.6	138

Source : CSMAR Solution with the sorting and calculating of the author

#### 4. The research for over raised fund: an index reflecting investing sentiment on GEM and affection for company value

##### 4.1 Over-raised fund comparison in varied stock markets

Till the middle of August 2010, there are total 103 companies in GEM. The actual fund raised is 69.327 billion yuan and 45.912 billion are over raised fund, with the general over-funding ratio of 196%. Nationz Technologies has the highest over-raised fund at 1.965 billion yuan. HuaxinChuangye has the lowest over-raised fund at 474.6 million yuan. For comparison purpose, the researcher collects the scheduled fund and over-raised fund data of 159 SME companies listed from Oct 29, 2009 till Aug 13, 2010. The total actual fund raised is 145.64 billion yuan and the over-raised fund is 84.524 billion yuan at the general over-raised ration of 138.3%. Hepalink has the highest over-raised fund at the value of 0.4852 billion and Zhujiang Beer has the lowest over-raised fund ratio with the gap below target 0.694 billion. The overall comparison about over-raised fund ratio is shown in figure 15

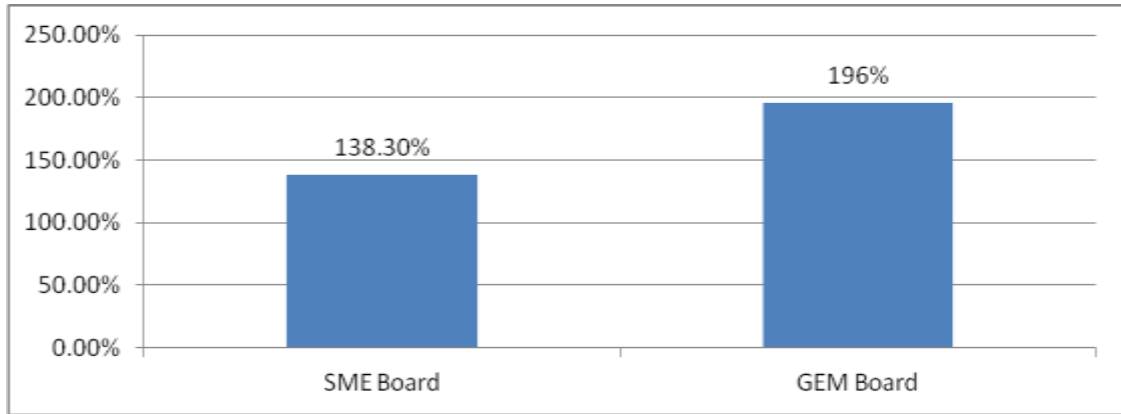


Figure 15 Over-raised fund ratio comparison between GEM and SME companies

Source: GEM company data from QQ Money, SME company data from IPO company offering book with the author’s calculating and sorting

It can be seen that there is a more serious over-funding phenomenon in GEM than in SME. In addition, the research will observe the problems caused by over-funding phenomenon through studying for usage of over-raised fund by GEM companies. Till the middle of Aug,2010, there were 25 GEM companies not disclosing the usage of over-raised fund and 11.92 billion yuan is involved. 78 GEM companies had disclosed the schedules for the usage of the over-raised fund and 11.62 billion yuan is involved. No usage information about the other 22.37 billion yuan. Please see details in figure 16.

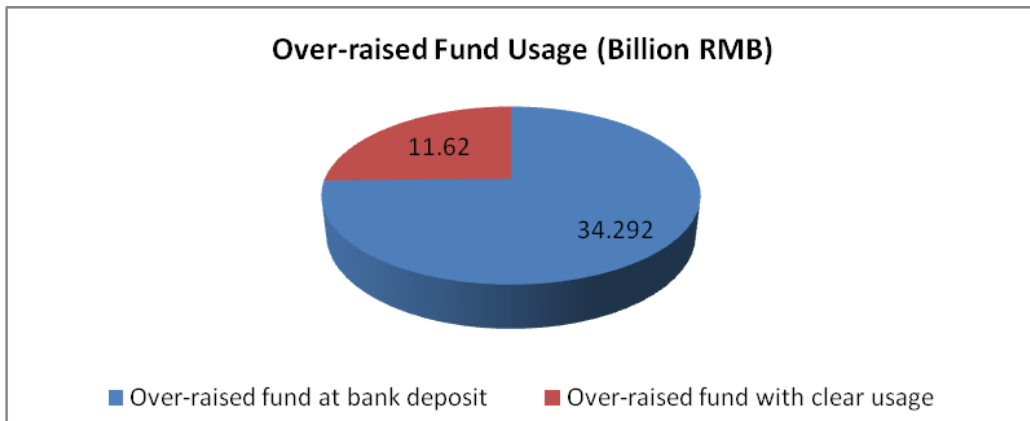


Figure 16 Over-raised fund usage comparison

Source : QQ Money

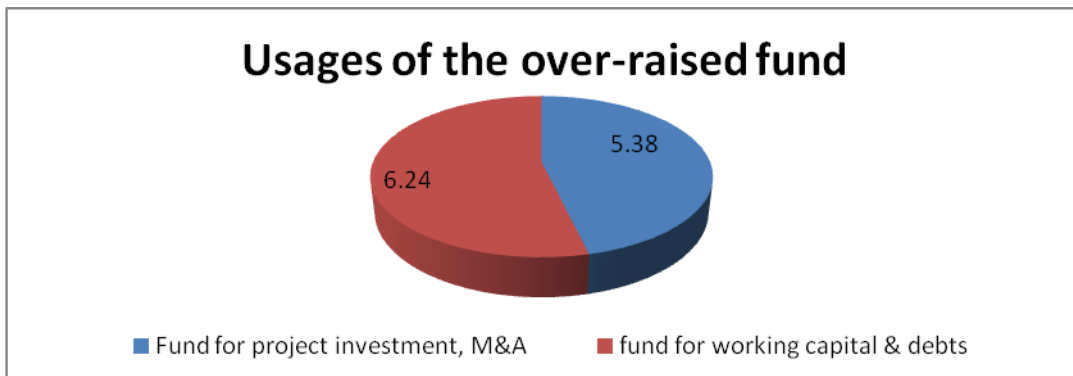


Figure17 Fund usage comparison with clear usage purpose

Source : QQ Money

## 4.2 The effect of over-raised fund for corporation value

While the researches separate the corporate value to value brought by current assets and value brought from future investment, the corporation value could be defined by the following formula:

$$V = \left[ \frac{X}{K} \right] + \left[ I \left( \frac{P - K}{K} \right) T \right]$$

X represents the expected return from corporation's current assets; K represents the cost of corporation's assets; P represents the investment return rate; I represent the corporation investment scales and T represents the corporation increase time limit. At the moment, the researcher will analyze the effect of GEM companies' over-raised fund for companies' value through though the company value formula. The first part of the formula could represent the company's value determined by the original assets and return rate before listing. The second part could represent the value created by the raised fund from IPO. Therefore a company's value is determined by the investment return from the above two parts of assets and relative investment.

The formula could be used to calculate WARA (weighted Average Return on Assets). The weight is set by the ratio of company's asset before listing and fund raised by listing over total assets after listing. Then the researcher could calculate the investment return after listing on the basis of laid up capital rate of over-raise fund. Indicated by table 11, the GEM companies' general ROEs of 2008 before listing are relatively high, with the mean of 36.9%. On the basis of over-raised fund ratio, the simulated ROEs show declining trend, with the mean of 12.6%. Based on middle annual reports of 2010, the simulated ROEs of GEM companies show a obvious declining trend. These data and analysis could lead to conclusions that the over-raised funds have not created high ROEs and the raised funds have not achieved the expected functions, leading to the reduction of general ROEs of GEM companies.

Table 11 Changes of ROEs for GEM companies on the basis of over-raised fund %

Indicator	Min	Medium	Mean	Max	Stand Deviation	Sample size
ROE at 2008 before listing	17.7	32.7	36.9	81.8	16.1	36
Simulated ROE with over-raised fund	6.0	11.2	12.6	27.8	16.1	36
Simulated ROE 2011	-6.0	6.2	6.6	22.6	2.0	94

Source : CSMAR Solution with the sorting and calculating of the author

## 5. Additional empirical validation: the explanation and market reaction of executive resignations

### 5.1 The validation for the reason of executive resignation: company value change or reaction for company share price fluctuation?

The first 28 GEM companies are chosen as the study subjects, since they should have relatively better growing potentiality and development prospects. Nonetheless, the researcher noticed that 14 of first 28 GEM companies are involved in executive resignation. The corresponding middle-year performance increase of these 14 companies is 1.1%, while that of the total 28 GEM companies is -6.39% and that excluding 9 companies having share decrease from executives is -9.94%. It seems that the statics do not support the conclusion that the issue of company governance causes



the executive resignation. From table 12, no matter over-raised fund ratio, or PE ratio is unable to explain the executive resignation. It is a question awaiting further investigation that whether executive resignation affects company value changes, which has not been observed in the market.

Table 12 Explanation of executive resignation from perspectives of over-raised fund ratio and PE ratio

Over-raised/scheduled	Mean	Min	Max	Standard deviation	Sample size
Companies with resigned executives	1.4	0.46	3.17	0.85	19
Companies without resigned executives	1.35	0.5	2.39	0.54	19
Mean deviation (t)	Whether this is obvious deviation in over raised fund				t=0.23
Over-raised fund/Total assets before listing	Mean	Min	Max	Standard deviation	Sample size
Companies with resigned executives	1.12	0.21	3.22	0.71	19
Companies without resigned executive	1.18	0.27	2.29	0.51	19
Mean deviation (t)	Obvious deviation between over-raised fund and total asset before listing?				t=-0.29
PE	Mean	Min	Max	Standard deviation	Sample size
Companies with resigned executives	55.73	45.51	76.26	10.06	19
Companies without resigned executive	55.37	40.19	81.3	12.35	19
Mean deviation (t)	Obvious deviation of PE before listing?				t=0.10

Source : CSMAR Solution with the sorting and calculating of the author

## 5.2 Event study for companies after executive resignation

In addition, the author will study the executive resignation through looking at the share price fluctuation of relative companies. The samples here are 19 GEM companies with resigned executives among 38 GEM companies listed till Jan 1<sup>st</sup>, 2010.

The researcher carries out event study through observing the share price one day before, the publishing day and 15 days after the executive resignation disclosure. The data are shown in figure 18. The returns of the share investment return for these companies are gradually increasing before the resignation information disclosure and the market reaction in the information disclosure day is positive corresponding

relationship. Nonetheless, the share investment return after 15 days will drop obviously. This is a typical share price reaction in a market with low information efficiency. Executives choose to resign when the share price is increasing and the market cannot interpret the effect of executive resignation for company value or the signal for the market. After a while, the investors realize the effect and choose to sell the shares and cause the reduction of share investment return.

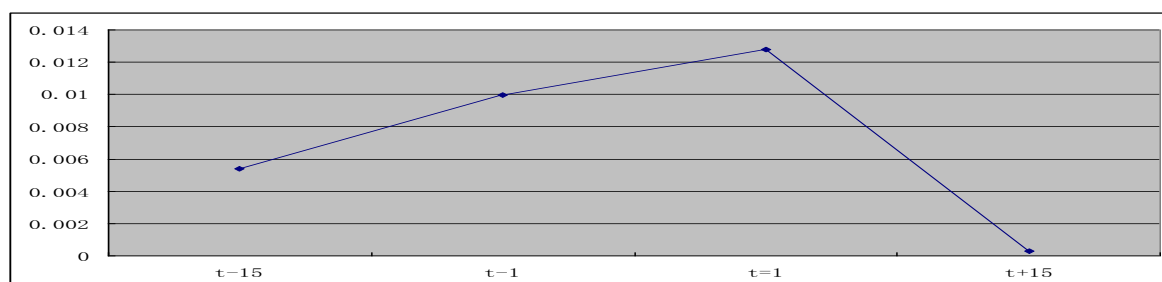


Figure 18 Market response for 19 GEM companies with resigned executives  
Source: Public trading data of Shenzhen Stock Market with the author's sorting and calculating

### 5.3 Event study for new November regulation of Shenzhen Stock Exchange

Notice of Shenzhen Stock Exchange on Further Regulating the Purchase of Stock of the Listed Companies on the Growth Enterprise by Their Own Board Director, Supervisors and Senior Managers was released on November 4<sup>th</sup>, 2010. Its purpose is to regulate the purchase and sell off own company shares by company management team. And an important clause is that the Board directors, Supervisors and Senior Managers are not allowed to transfer their own company shares within 18 months after resignation, if they resign within 6 months after listing. If they resign from 7 to 12 month after listing, they are not allowed transfer their own company shares within 12 months after resignation.

The regulation is still valid if the own company shares of board directors, supervisors and senior managers are changed due to company equity distribution. The researcher could analyze the effect of the new regulation on share price by carry out event study for share prices changes of 28 GEM companies before and after share transfer blocking. The descriptive data and average mean ROE is shown in table 13. The average ROEs of the first unblocking GEM companies is higher than the general ROEs, but SOEs become lower than the general ROEs 2 weeks after unblocking, maybe because of the increased supply of shares or realization of negative effect for company values.

Table 13 Share price market performance of first 28 GEM companies before and after unblocking

	Average ROEs of 28 GEMs unblocking companies	GEM Index
Two weeks before unblocking	12.51%	11.06%
Two weeks after unblocking	2.84%	7.89%
Mean difference validation	Does ROE have obvious difference before and after unblocking?	t=4.23

Source : CSMAR Solution data base after calculation and analysis

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**TESTING THE ACCRUALS AND CASH FLOWS ANOMALIES  
FOR THE INDIAN STOCK MARKET**

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**ABSTRACT**

This study examines the persistence of earnings performance, the contribution of accruals and cash flows in the persistence of earnings and whether investors correctly value the information contained in earnings, accruals and cash flows for equity pricing. We use data for 493 companies on the BSE from Jan 1997 to Dec2010. Results support the high persistence of earnings for the sample firms and that the stock prices correctly reflect the implications of current earnings for future earnings. We find that earnings persistence is more attributable to cash flows than accruals. However the Indian investors seem to under price accruals and overprice cash flows which is in contrast to findings for mature markets. Accruals are found to be positively associated with future returns. The accrual anomaly is not captured by one factor CAPM but is fully explained by the three factor Fama French model due to risk premium on the size factor. A negative relationship is reported between cash flows and returns which is again contrary to the results for mature markets. The cash flow anomaly which is not absorbed by CAPM is explained by the size and value factors of the Fama French model. Hence accruals and cash flow anomalies do not pose serious challenge to popular asset pricing models in the Indian context. Our findings shall be highly useful for investment analysts and portfolio managers who are in pursuit of trading strategies that promise extra normal returns. The research contributes to asset pricing and behavioural finance literature especially for emerging markets

Keywords: Accruals; cash flows; earnings persistence; CAPM; Fama French model

JEL code: C22, C33, G12, G14, M41

## **Momentum and industry-dependence: the case of Shanghai stock exchange market**

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### **ABSTRACT**

A number of scholars have shown that future stock returns are predictable based on past returns in many international security markets. Developing strategies to benefit from these autocorrelations of security returns and finding reasons for the abnormal positive returns resulting from trading strategies are major objectives of investment research. This paper sought to analyze the profitability of momentum strategies in the Shanghai stock market over the period from December 2007 until February 2012. Controlling for market returns and for transaction costs, it was found that investors using momentum strategies could have indeed generated superior returns during that time period. In addition, the paper analyzed whether the returns of momentum strategies involving Shanghai stocks are industry-dependent. The findings suggest that momentum in the Shanghai stock market is clearly driven by high-technology stocks with financial sectors showing worst performances over that period.

**Key words:** Momentum (stock) returns, Shanghai, Capital asset pricing model, abnormal returns and transaction costs

### **1. INTRODUCTION**

Momentum trading strategies have by far been examined and confirmed in a number of world famous developed stock markets, but for emerging markets the story is still ambiguous. For example a trading strategy of a portfolio that goes long on past high-return stocks and shorts on past low-return stocks yields significant abnormal returns posed a profound debate in finance science. In, Jegadeesh and Titman (1993) contrary to efficient market hypothesis pioneered by fama (1970) found evidence of momentum trading strategies in that a winner portfolio consistently outperformed a loser portfolio in holding periods of 3 to 12 months.

They finally concluded that stock prices in United States stock market are auto correlated. Oliver rausch (2011) using four portfolios of stocks formed from 41 securities and raw momentum strategies set based on 3, 6, and 12 month formation and holding periods, found that the spread between a portfolio of past winners and past losers was positive although not statistically significant when using either unadjusted or risk-adjusted returns. Using shanghai stock exchange data from December 2007 until February 2012 this study intends to wake up investors whether momentum returns can still be ripped on the shanghai stock market.

This paper contributes to the existing literature by examining whether the market turbulence brought up by the financial crisis of 2007, continues to unwind momentum profits in the shanghai stock exchange. As in any trading strategy the rebalancing of portfolios usually goes hand in hand with transaction costs, whence the paper controls for this variable, with respect to market some of stock's returns generally have a

tendency of correlating with the market return overall, controlling for this risk factor the paper ought to ignore all the effects posed in the securities returns. By controlling for the market and transaction costs, it was found that investors using momentum strategies could have indeed grabbed substantial returns during the time period covered.

An analysis of momentum strategies and industry-dependence is by far covered as a supplemental knowledge to potential investors. The article is organized as follows. The next section explores a thorough review of both empirical and theoretical underpinnings regarding momentum impacts. The subsequent section introduces the methodology adopted. Analysis and discussion of the empirical results are in the penultimate section. Conclusion and future research areas are provided in final section.

## **2. LITERATURE REVIEW**

Momentum trading strategies in both national and international stock markets have been examined by a number of practitioners, their study ought to reexamine whether efficient market hypothesis theory proposed by Fama and French is actually still a debatable area worth for future research endeavors. None of the paper works read gave convincing results, but rather a pool of conflicting justifications. Building on the Fama and French (1993) methodology, Ana-Maria Fuertes et al, formed skewness and kurtosis-mimicking portfolio returns which were subsequently included as additional risk factors in the CAPM and the Fama and French three factor model. Their paper supported the notion that momentum profits are partly a compensation for exposure to undesired systematic (negative) skewness (Ana-Maria Fuertes et al, 2009).

The work of John Wei-Shan Hu and Yue-Chin Chen (2011) covering 23 well-developed and 25 newly developing countries using MSCI data, AREMOS, Bloomberg and the Yahoo Finance network and a sampling period running from January 1999 through December 2007 analyzed their monthly stock indices by constructing portfolios of winning and losing indices based on the approach in Jegadeesh and Titman (1993)'s study, and ranking 48 national stock indices into eight categories based on the rate of return on individual indices at the portfolio ranking date, with the first category consisting of six worst indices or the worst loser and the eighth category comprising six best indices, representing the best winner found that all four momentum investment methods exhibited significant continuation of returns over the medium-horizon, suggesting all global stock indices confirm with the behavior pattern of the strong becoming stronger and the weak becoming weaker. However, they surprisingly witnessed an average monthly stock returns reversals when the holding period exceeded one year, but the strategy produced significantly positive high stock return over a two-year holding period when ranking period exceeded nine months.

K.C. John Wei et al (2010) in an analysis of 55 countries using data from February 1980 to June 2003 found that culture can have an important effect on stock return patterns, which is consistent with the idea that investors in different cultures interpret information in different ways and are subject to different biases which in turn affects the extent of the success of momentum trading broadly.

Dongwei Su (2011) using monthly stock prices for all firms listed in the Shanghai and Shenzhen Stock Exchanges during January 1994 and December 2008 found

significant abnormal profits for industry momentum trading strategies, even after controlling for lead-lag effect, the January effect, and individual stock momentum. Moreover, momentum profits generated by industry-specific components were much larger than those generated by common-factor components of the Fama-French three-factor model and a delayed-reaction three-factor model.

Manuel Ammann et al (2010) using return data from January 1982 to December 2009, and allowing the momentum strategies to start in January 1984 under restricted investment universe to the highly liquid large-cap and blue-chip stocks contained in the S&P 100 index. They found strong evidence for economically and statistically significant returns for strategies investing long in the single best performing stock and selling short the index instead of individual stocks.

Abdulaziz M. Alwathainani (2011) analyzed monthly returns data from 1964 to 2008 taken from the Center for Research in Security and Prices (CRSP). The author found that a zero-investment strategy that goes long on the consistent winner stocks and short on their consistent Losers cohorts generated strong price momentum in the first twelve months after the ranking period. Subsequently, however, both groups experienced return reversals in Years 2 to 5. The momentum return earned by the consistent winners and losers strategy was almost wiped out by the total price reversal in Years 2 to Year 5. The findings were robust to the four-factor regression analysis of the Fama-French three-factor model and the momentum factor as well as to various sensitivity tests performed.

Pin-Huang Chou et.al (2011) using ordinary common equities data of all firms listed on the NYSE, AMEX, and NASDAQ return files from the Center for Research in Security Prices (CRSP) from July 1963 (1973 for NASDAQ firms) to December 2006, while mitigating the survivorship bias by taking companies data available on COMPUSTAT for at least two years (like Fama and French, 1993) observed that industries play a dual role with both rational and behavioral components and hence neither rational nor behavioral theories alone can explain industry returns.

### **3. DATA AND METHODOLOGY**

This study uses monthly stock prices over the period from 31 December 2007 until 28 February 2012 that are obtained from all common stocks listed on Shanghai stock Exchange. The sample includes only 50 A shares common stocks of firms listed on the Shanghai stock Exchange. The returns used are those adjusted for capital gains and dividends. An equal-weighted Shanghai stock exchange composite index that consists of all active shares of the data set over the respective time period is used as a market proxy. The momentum strategy is intended as a zero-cost portfolio strategy that buys stocks that have performed well in the past and sells stocks that have performed poorly in the past. The methodology mainly follows Jegadeesh and Titman (1993). Analysis is based on 16 trading strategies on the shanghai stock market, the ranking periods  $g$  of 3, 6, 9 or 12 months and holding periods  $h$  of 3, 6, 9 or 12 months. SPSS (statistical package for social science) software was used for data analysis.

Following Jegadeesh and Titman (1993), stocks are sorted into 10 deciles according to past performance, and then measure the return differential of the most extreme deciles which is denoted by  $F_{10} - F_1$ . One month after the ranking takes place stocks are rebalanced into only two parts based on past performance.  $F_1$ , which

includes the worst-performing 10 per cent, and F2 which includes the best-performing 10 per cent in the ranking period.  $F2 - F1$  is the measure of momentum.

The top 10 per cent portfolio is the winners' portfolio and the bottom 10 per cent portfolio is the losers' portfolio. The stocks in the individual portfolios are equally weighted. By skipping a month between the end of the ranking period and the beginning of the holding period, like Tim Herberger et.al (2011), some of the bid-ask spread, price pressure and lagged effects, which could skew the results was avoided. The gross return of a test run (buy-and-hold return of a holding period of T months in test run i,  $BHR_{i,T}$ ) is defined as follows:

$$BHR_{i,T} = \prod_{t=0}^T (R_{W,t} - R_{L,t})$$

where  $R_{W,t}$  is the monthly return of the winners' and  $R_{L,t}$  of the losers' portfolio. The market-adjusted return of a test run (buy-and-hold abnormal return of a holding period of T months in test run i,  $ABHR_{i,T}$ ) is defined as follows.

$$ABHR_{i,T} = \prod_{t=0}^T [(R_{W,t} - R_{L,t}) - R_{M,t}]$$

where  $R_{W,t}$  is the monthly return of the winners' portfolio and  $R_{L,t}$  is the monthly return of the losers' portfolio.  $R_{M,t}$  is the monthly return of the equal-weighted Shanghai stock Exchange Index. For evaluating the success of a trading strategy, it is essential to consider transaction costs, which are incurred when the portfolios are assembled and when the strategy closes out the positions at the end of a test run. In this study, three different rates of transaction costs are considered.

And they depend on the type of investor employing the momentum strategy. The approach is similar to Tim Herberger et.al (2009) that institutional investors face transaction cost of 0.2 per cent for every purchase or sale of extreme portfolios, private clients 1.0 per cent. The market-adjusted return after transaction costs of a test run (buy-and-hold abnormal return after transaction costs with a holding period of T months in test run i,  $ABHR_{i,T}$ ) is defined as:

$$BHR_{i,T} = \prod_{t=0}^T [(R_{W,t} - R_{L,t}) - R_{M,t}] - T_i$$

Where  $R_{M,t}$  is the monthly return of the equal-weighted Shanghai stock Exchange Index and  $T_i$  is the rate of transaction costs. To analyze whether the returns of momentum strategies involving Shanghai stocks are industry-dependent, then industries were sorted into four sector-dimensions high-technology, services, financials and production, and used these specific samples to calculate sectoral momentum returns.

#### 4. RESULTS

Table A; below reports the average monthly returns for composite portfolio strategies between December 2007 and February 2012. From the table it can be seen that all strategies yield highly significant returns. For the strategy with a 3-month ranking and a 3-month holding period, an equally weighted portfolio formed from the stocks in the bottom percent of previous 3-month performance returns 11.67 per cent per month, 10.66 per cent less than the top percent portfolio which returns 22.33 per cent. Extending the holding period from 6 to 9 and to 12 months, does not improve



performance. The shorter the time horizon of the holding period, the higher is the momentum return in this case.

While the 9/3-strategy returns 28.8 per cent per month, the 9/6-strategy returns 18.18 per cent and the 9/12-strategy 24.23 per cent. Finally, a ranking period of 12 months and a holding period of 12 months lead to a return of 4.51 per cent.

In general average returns are highest for the medium-term 6-months strategies. The result are well in line with the approach in the literature to mainly focus on a strategy based on 6-month ranking and holding periods (for example, Jegadeesh and Titman, 1993; Tim Herberger et al, 2011). The winners of all strategies clearly outperform the losers. All of the returns are significant at the 5 per cent level.

Table A: Calculated average monthly returns of momentum portfolios from 2007 to 2012

Ranking period (g)	Portfolio	holding period (h)			
		3	6	9	12
3	Loser (F1)	0.1167	0.1251	0.1301	0.1540
	Winner (F2)	0.5333	0.4922	0.4430	0.4605
	Winner–Loser (F2–F1)	0.4166	0.3671	0.3129	0.3065
	(t-stat)	(5.81)	(6.54)	(8.02)	(11.14)
6	Loser (F1)	0.1185	0.1204	0.1232	0.1449
	Winner (F2)	0.5432	0.5001	0.4422	0.3920
	Winner–Loser (F2–F1)	0.4247	0.3797	0.3190	0.2471
	(t-stat)	(8.71)	(7.77)	(12.13)	(9.62)
9	Loser (F1)	0.1232	0.2315	0.2353	0.3100
	Winner (F2)	0.4112	0.4133	0.5002	0.5523
	Winner–Loser (F2–F1)	0.2880	0.1818	0.2649	0.2423
	(t-stat)	(6.88)	(7.9)	(10.1)	(7.95)
12	Loser (F1)	0.1311	0.3321	0.3411	0.3321
	Winner (F2)	0.4552	0.3992	0.3608	0.3472
	Winner–Loser (F2–F1)	0.3241	0.0671	0.0197	0.0151
	(t-stat)	(9.22)	(6.66)	(7.09)	(13)

Datasource: Shanghai stock exchange Monthly Market Statistics from 2007 to 2012.

Table B; reports the average monthly abnormal returns of the momentum portfolios on a market-adjusted base using the average monthly Shanghai stock Exchange composite index return as the market proxy. It is easily seen that the performance of all strategies declines with increasing holding period. For the strategies based on a 3-month holding period, market-adjusted returns are highest for the short-term 3/3-strategy with 42.06 per cent and decrease with time to 37.02, 32.22 and 31.01 per cent, respectively.

All returns are significant at the 5 per cent level, those of the 3/3- and 3/9-strategies even at the 1 per cent level. In comparison to the returns obtained by the 3-month ranking period strategies, the strategies based on 6 month ranking periods yield much higher market-adjusted returns with 43.23, 38.11, 32.02 and 25.25 per cent.

While the returns of the 6/3, the 6/6- and the 6/9-strategy are significant at the 1 per cent level, the return of the 6/12-strategy is still significant at the 10 per cent level. Although the 9/6-strategy also yields a comparatively high return of 19.20 per cent, returns drop consecutively. While the 9/9-strategy returns only 18.23 per cent, the 9/12-strategy yields 17.44 per cent. The highest overall return, however, has the 12/3-strategy with a significant 44.21 per cent. With increasing holding-period horizon returns drop to 7.55, 2.45 and 2.01 per cent.

Table B: Calculated average monthly returns after market adjustment from 2007 to 2012

Ranking period (g)	Holding period (h)			
	3	6	9	12
3	0.4206	0.3702	0.3222	0.3101
(t-stat)	(2.91)	(2.62)	(2.88)	(2.34)
6	0.4323	0.3811	0.3202	0.2525
(t-stat)	(3.71)	(4.13)	(4.21)	(2.47)
9	0.3112	0.1920	0.1823	0.1744
(t-stat)	(3.63)	(3.9)	(3.32)	(1.88)
12	0.4421	0.0755	0.0245	0.0201
(t-stat)	(3.75)	(3.09)	(2.36)	(1.094)

Datasource: Shanghai stock exchange Monthly Market Statistics from 2007 to 2012

Table C; shows market-adjusted abnormal returns after transaction costs. In group 1, transaction costs are 1 per cent. In group 2, transaction costs are 0.2 per cent. For all strategies based on a 3-month ranking period, there are no more positive significant abnormal returns. At the 1 per cent transaction cost level, all the 6/3-, the 6/6- and the 6/9-strategies lead to highly significant positive abnormal returns after market-adjustment. Although some of the returns of the strategies based on ranking periods of 9 and of 12 months are even higher than in the case of a 6-month ranking period, none of the abnormal returns is significant at the 0.2 per cent transaction cost level anymore. At the 1 per cent transaction cost level, the 9/3, 9/6, 9/9 and 12/3 strategies still deliver positive abnormal returns.

Table C: Average market-adjusted monthly returns at different transaction costs from 2007 to 2012

Ranking period (g)	Group 1				Group 2			
	Holding period (h)				Holding period (h)			
	3	6	9	12	3	6	9	12
3	0.2821	0.2705	0.1981	0.1601	0.3021	0.2912	0.2422	0.1799
(t-stat)	(1.68)	(1.52)	(1.34)	(1.41)	(1.72)	(1.44)	(1.42)	(1.11)
6	0.3207	0.3112	0.3017	0.2306	0.3410	0.3225	0.3198	0.2507

(t-stat)	(2.25)	(3.55)	(3.76)	(2.25)	(1.36)	(2.53)	(2.98)	(1.53)
9	0.3450	0.3003	0.2961	0.1482	0.3610	0.3323	0.3114	0.1598
(t-stat)	(2.71)	(3.14)	(2.77)	(1.21)	(1.21)	(2.31)	(1.95)	(1.63)
12	0.4120	0.3219	0.2555	0.1909	0.4216	0.3402	0.2752	0.2125
(t-stat)	(2.67)	(2.57)	(1.72)	(1.48)	(1.77)	(1.09)	(2.01)	(2.23)

Datasource: Shanghai stock exchange Monthly Market Statistics from 2007 to 2012

Table D reports average monthly abnormal returns in percentages for the given price industry momentum portfolio strategies. There are observable differences among the sectorial returns. The monthly returns of the momentum portfolios range between 59.82 per cent for the high-technology sector and 26.56 per cent for the financial sector. The retail sector monthly return is 45.12 per cent, while the production sector return is 39.56 per cent. All are highly statistically significant. Looking at the market-adjusted abnormal monthly returns for the 6/6-strategy, the results for the high-technology sector, the retail sector and the production sector are still positively significant with 51.02, 40.23 and 34.49 per cent, respectively. The financial sector only returns 23.59 per cent. Overall performance is successfully driven by the high-technology sector, which produces significant positive abnormal monthly returns after market-adjustment even at a transaction cost level of 1 per cent. Only the production sector, however, also yields positive significant returns at a transaction cost level of 0.2 per cent. While lowest returns are obtained in the financial sector.

Table D: Average market adjusted monthly returns of industry momentum portfolios and returns using 1 percent and 0.2 percent transaction costs levels from 2007 to 2012

Returns	High-Technology	Retail	Production	Financial
R	0.5982	0.4512	0.3956	0.2656
(t-stat)	(7.22)	(5.15)	(7.32)	(9.12)
M	0.5102	0.4023	0.3449	0.2359
(t-stat)	(4.56)	(1.28)	(2.99)	(3.99)
T1	0.4123	0.3621	0.2978	0.1959
(t-stat)	(4.97)	(1.44)	(2.59)	(2.87)
T0.2	0.4756	0.3856	0.3212	0.2019
(t-stat)	(3.62)	(1.56)	(1.08)	(1.77)

Data source: Shanghai stock exchange Monthly Market Statistics from 2007 to 2012

## 5. CONCLUSION

Using shanghai stock exchange data, the researcher analyzed the profitability of momentum trading strategies in the shanghai stock exchange based on monthly returns data from December 2007 until February 2012. The findings suggest that even after years of thorough analyses and considerable awareness of momentum effects triggered by business cycles, investors of all kinds such as institutions and private individuals could still generate superior returns using momentum portfolio trading strategies. The improved performances are significant even after market-adjustment and the consideration of transaction costs as well as for several combinations of ranking and holding periods. Returns in all periods are mainly driven by the winners.

Finally it was found that the returns of momentum trading strategies involving Shanghai stock exchange are industry-dependent. Momentum profits in the Shanghai stock exchange market is by far driven by high-technology stocks. The financial sector returns were the most disappointing for the overall period of study covered. Future research endeavors could focus on the momentum effects to other stock markets like Shenzhen apart from Shanghai stock exchange.

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# International Business & Marketing Management

13:00-14:30, December 16, 2012 (Room 4)

**Session Chair:** *Prof. Kazuyuki Motohashi*

## **1760: An Innovative Marketing Model Based On AIDA- A Case from E-Bank Campus-Marketing Done by CCB**

*Li Jiangyu*

*Beijing Normal University*

*Yu Haibo*

*Beijing Rep Office, Sun Life*

*Assurance Company of Canada*

## **1653: Managing Competency Creating R&D Subsidiaries: Evidence From Japanese Multinationals**

*Kazuyuki Motohashi*

*The University of Tokyo*

## **1702: Learning-oriented Internationalization of Chinese Firms**

*Huei-ting Tsai*

*National Cheng Kung University*

## **1750: Doing Business in China: What is the Use of Having Contracts?**

*Berry Kwock*

*United International College: Beijing*

*Normal University – Hong Kong*

*Baptist University*

*United International College: Beijing*

*Mark James*

*Normal University – Hong Kong*

*Baptist University*

**An innovative marketing model based on AIDA:  
- A case from e-bank Campus-marketing Done by CCB**

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## ABSTRACT

In mature marketing, general perception towards AIDA is that most enterprises will lay emphasis directly on value proposition of a product or services, and encourage clients going to each step of AIDA layers, finally to increase the total number of final step, say enlarging the number of actual buying action. However to some extent, the efficiency of such a simple model appears strongly inadequate. Based on AIDA theory and market feature of universities via e-bank at CCB, this paper has introduced a new marketing model which present a new value proposition accelerating AIDA marketing at university market, the outcome further helps to grow AIDA at bigger market groups.. Finding of this paper shows new model greatly improved the efficiency of marketing, and it also unfolds a new perspective in marketing of the enterprises.

Keywords: Marketing model; Internet marketing; AIDA model

## 1 INTRODUCTION

As the development of internet and the use applied in business, online payment is becoming a payment which more and more people tend to rely on (Market share of online payment in China which leads the competition between banks and the 3rd party who renders online payment services (Iresearch's point, 2012). That is to say service-oriented banks likely become off-stage hero who only offers account management and basic payment remittance via internet; it will finally lodge at the lower position of value chain in the process of payment via 3rd party (Zhang Hu, Liang Hongshun, 2012). Service identity of banks is becoming vaguer which leads severe competition (Yang Fen, 2008). Improving cognition of e-bank and the use of e-bank, and further having more good-quality customers are the major challenges banks shall face.

CNNIC survey shows that major internet users are the young aged between 20 and 35, among which mainly are college students (CNNIC, 2012). Their using behavior of the internet and choice of online payment will have significant impact on future market position of banks, in this sense, college students are one of major targeting groups in e-bank market. Marketing methods in current banks are still to use flyers, introduction thru tellers, marketing activity via internet etc. these traditional ones are good, but also have shortcomings shown as follows.

- People resentment towards flyer ads and salesman, the promotion of such activities at universities are strictly controlled in China.
- Limitation of the coverage and efficiency at universities.
- Online marketing activities and ads lack of features targeting mainly on college

students, so the outcome of marketing activities and ads is not good.

- Except bank brand, it is hard to identify the difference between banks and the 3rd party payment in terms of online services rendered.

From the above, we can see that the introduction of a new marketing model is very importance, especially in times when internet develops very fast and innovation flushed pushing by internet development. Based on business innovation model concerned, the author made certain research on internet using feature and career development character of college students, and a new marketing model was found after analyzing the research.

## 2 LITERATURE REVIEW

### 2.1 AIDA Model

Modern marketing theory can be shown in AIDA model. It is a basic movement of the marketing and advertisement resulted from the perception of customers. It was first developed by E.St. Elmo Lewis in 1898. A, I, D, A refers to Attention, Interest, Desire and Action respectively. AIDA is an acronym used in marketing and advertising that describes a common list of events that may occur when a consumer engages with an advertisement (Mackey. A. , 2005 ).

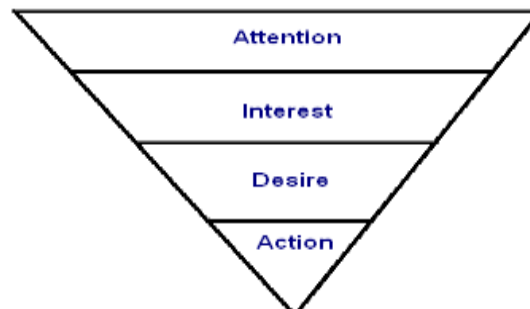


Fig.1: AIDA Model

- A - Attention (Awareness): attract the attention of the customer.
- I - Interest: raise customer interest by focusing on and demonstrating advantages and benefits (instead of focusing on features, as in traditional advertising).
- D - Desire: convince customers that they want and desire the product or service and that it will satisfy their needs.
- A - Action: lead customers towards taking action and/or purchasing

Based on the needs of AIDA model, the aim of marketing is to attract the attention from potential clients, arouse their interest and desire to the final buying action. By going each step, total number of potential clients will decrease step by step, becomes an inverted triangle. Marketing strategy of this model generally is to enlarge the bottom of the triangle. Or increase the convert rate (Potential client becomes a real buyer). The barriers are if just simply enlarging the bottom of the triangle will increase marketing cost greatly. The inconsistency between marketing and clients needs or dislike of marketing itself will reduce the convert rate of entering next layer of AIDA.

### 2.2 E-bank Marketing model at universities by CCB

Based on AIDA theory, we could consider marketing process through AIDA model as marketing model. As for e-bank marketing business model at CCB (Figure

2), it is to attract customers' attention to e-bank services via various advertisement channels, and further arouse their interest in accepting and willing to use the service. Besides this, the statement of ads also helps customers to know how to use the service in an easy way and become existing clients. Value proposition here refers to personal account management, low cost and the convenience of investment management and online payment e-bank service brought. But complex online use of e-bank and confidence in using it are also the key element of e-bank service. The corresponding marketing process can be shown as follows(CCB, 2012).

- Ads and media channel including video, photo, slogan etc., also including outdoor posting, public wall papers, telephone or internet. It is a key component how to understand the complex process of e-bank usage, and keep loyal trust to it. Service man/sales man refers to tele/on-site service people, service manager, they can be willing to introduce e-bank products to clients, also they can further explain or handle trouble-shooting related to e-bank usage, all those could easily help to build up clients confidence and buy the products. Ads companies mean professional marketing institute who provide professional ads strategy and design, make expert ads and promotions to get in touch with potential clients.
- 
- Departments refer to separate units or branches of the company whose accountabilities is to make ads strategy, design, channel chosen , implementation and outcome evaluation etc.

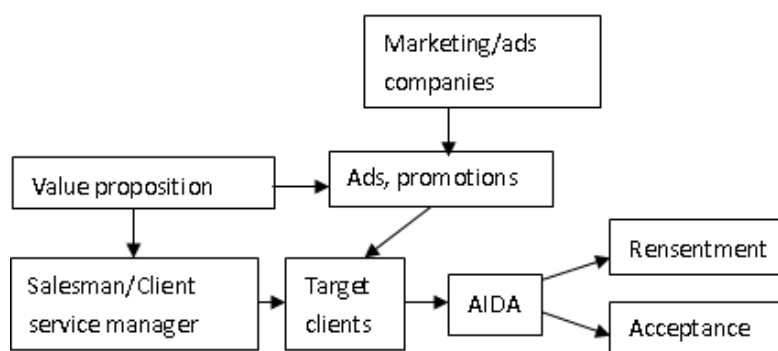


Fig.2: Marketing model based on simple AIDA theory

They are the main methods companies used in college student market. We found there no difference between common market and college market, and it does not vary because of the characteristics of college market are different. The value proposition of availability, safe and low cost in e-bank service remains no changed, the similarity and upfront selling methods of products or services is hard to get students' attention, more worse it could easily lead to resentment. Besides this, ads activities at colleges are strictly controlled, which make it harder for companies to get promising outcome of ads. However the complexity and security of using e-bank cause more difficult for clients to commit a buying action, at the same time, it have to force enterprises to endeavor more effort to product more effective and efficient outcome from marketing and advertisement .

### 2.3 Characteristics of College Students

College students have many requirements. The improvement of employability becomes their most required desire due to recent years' employment difficulties. In the other hand, lots of enterprises could not satisfy their recruiting plan because of the shortage of right candidates. The reason could be complex. From company side,



possible reasons of failure to meet company requirement in candidates are as follows(Zhaopin, 2006); Pu Jianping, 2005; Li Keyong, Lu Nuo, Liu Yang, 2007).

- No working experience.
- Lack of responsibility, especially the ability and attitude of working with others.
- Big gap between college courses and reality which causes college students unwilling to do small things, however their aiming is unrealistic high.

Working experience becomes an impossible mission for students who still is undergraduate or who never worked before (Such as temp/part-time jobs or internship). At universities, these basic abilities are not the focus, even not the content of teaching curriculum, many schools have been aware this though, but they often left with no solution because majority schools lack of teaching staff, their ability of communicating with companies is not enough, and they don't real understand the needs of enterprises.

The gap between teaching curriculum and reality is a serious problem. Especially at the era of network growing rapidly, the ability of using internet is an essential qualification for staffing at companies. It shall be embodied in the related courses and professional trainings, in aim of improving the ability of thinking, understanding and solving problems. Most of the colleges have realized the problem but failed to offer a solid solution.

In real life, the capability of using internet is the advantage for college students, so career development based on the internet and internet capability shall become their strength, which is the most desired need for college students.

### **3     MARKETING MODEL INNOVATION**

Based on college students' characteristics and requirement, CCB, together with Chinese Internet Association, initiates and organizes the "National College Student Internet Business Innovated Application Contest" (Newwinner, 2012).The aim of the contest is to advocate that internet competency and its application in business are the essential employability of college students in the future. Knowledge and ability about online payment are important parts of it. The program requires college students to give innovative solutions via internet based on real business problem, and the solutions will become main component of evaluating indicator. CCB has involved in the program by improving the capability of college students and main activities include:

- Organize series of lectures: Organizing lectures at universities about network development and the impact on enterprises' business model by the example of e-bank, introducing the influence of the network on banking business model, online payment and security strategy.
- Increasing e-bank recognition and its usage at CCB via innovative marketing model as key content of the contest, the people it impacted, new users it developed and the using level of existing users become major evaluation indicator for the contest.
- On-line experiencing: Encouraging college students to visit e-bank service of the official websites, to understand and experience e-bank service so as to understand online banking model and its security strategy of e-payment.
- On-line communication: College students can have the opportunity to view company's issue and give solving solution. The process will be engaged via online communication, and advice, answers and solutions associated with e-bank in business

environment will be greatly encouraged. CCB could participate by online communication and supply related suggestions,

- Internet communication : This event required participating students express their understanding on internet and CCB e-bank use, e-commerce use or problem shooting solutions via internet tool or internet service such Sina blog, Tencent weibo, Baidu space, Ku6 video, renren.com, etc.. It helps them talk and learn from each other, and also could proof that their idea could solve enterprise problem. Indirectly their cognition on e-bank and e-bank strategy also will be spread out widely.

New marketing business model appeared (Fig. 3).

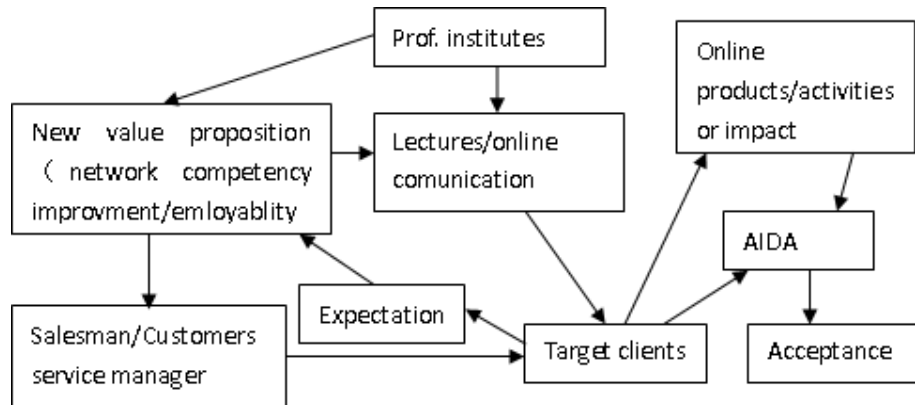


Fig.3: Innovative marketing model at CCB

In this model value proposition becomes “understanding and use of e-bank services at CCB will help college students improve e-commerce competency and employability” and other elements in the model will vary as well. Main changes are shown below

- The contents of ads targeting at college market does no longer focus on the function, but also on network business model, safe environment, enterprises’ competitiveness and individual career development etc.
- Direct target of the marketing here is participant students, but the people influenced by student behavior are more important target group
- Direct contact and communication with high-level e-bank professionals or management who has deeper understanding on network development, online payment development and the impact on enterprise business, personal career planning in network era.
- The organization and plan entering into the campus: it is no longer a separate activity of different departments, but more uniformed action planned by enterprises to contact universities in an attempt to reach much larger coverage of target clients at certain period of time.
- In terms of college seminar or forum, marketing support will be most likely provided by professional institutes instead of ads company

Besides this, two factors have been added in the model. One is expectation of target clients. It is the need of college students they are eager to improve their internet capability and employability, which was preset awareness. The other is the outcome after college students involved, which directly impact other potential clients via many most popular Chinese sites (business sites such as china.alibaba.com, social communities such renren.com, etc.). It helps clients go through all stages of AIDA. It is spread not only by words, and it also helps to realize two interactive impact of AIDA. A course of AIDA in smaller groups will bring direct influence to larger

groups, and it reduces the resentment of clients during AIDA course.

#### 4 CONCLUSION

Based on AIDA theory and students characteristic, this paper introduced an e-bank marketing model at CCB through value proposition change. This model can increase a great deal of the successful changes at AIDA stages towards target market. Furthermore, marketing outcome could cover more potential clients directly, and increase the successful changes of AIDA stage. This model appeared successfully in reality. According to statistics related. The event (implemented three times in straight years) Popularization program aiming to improve e-commerce competency of college students” attract 200K students to participant, among which 150K students become existing clients at CCB. The number the event influenced either college students or website users are more than 30 million. CCB is no longer in the passive position to persuade clients for sales, but becomes good career guidance to college students. However, this new model may cause big challenge for example the company may need prepare new Resources and Resources combination, and the education level of participants may be higher, so some adjustments may be required tailoring to those users, the contents or methods related to target market may rely on external help from professional institutes as well.

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## Evaluating e-Business Performance using Fuzzy PROMETHEE II Method

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### ABSTRACT

Business-To-Business electronic marketplace (B2B e-Marketplace), an electronic platform for buyers and sellers, provides a new dimension in facilitating the marketers to work more effectively when making critical marketing decisions. However, Small to Medium Sized Enterprises (SMEs) who are keen to compete in the electronic environment remain concerned as how their businesses can benefit from the B2B e-Marketplace. This study demonstrates the fuzzy PROMETHEE approach to critically explore B2B e-Marketing services derived from B2B e-Marketplace for SMEs, evaluate the findings, and use the generated results to link to a firm's e-Business performance. The findings is intended to be used as a guideline for managers who wish to adopt a proactive approach in the use of B2B e-Marketplace for competitive advantage, and exploration of the e-Marketing service performances for SMEs.

Keywords: B2B e-Marketplace, Decision Analysis, Fuzzy PROMETHEE, e-Marketing Services, SMEs

### 1 INTRODUCTION

Internet technologies are increasingly recognized as a key resource for most of the firms' business and marketing performances (Wu, 2002). According to the Internet World Stats (2010), by 30 June 2010, the Internet user population reached over 1.90 billion worldwide, 444.8 percent increased in the period from 2000 to 2010. Explosive growth of the World Wide Web (WWW) and the Internet-based trading has greatly facilitated the development of online commercial applications (Chao et al., 2003). Consequently, the emergent and usage of B2B enabling technology has caused profound changes to the Internet-based business environment.

The development of B2B e-Marketplace founded the use of Internet technologies for marketing purposes has attracted the attention of marketers for some years. The B2B e-Marketplace can significantly improve the way companies deal with their customers and suppliers (Downie, 2002). Furthermore, the initial proliferation of B2B e-Marketplace proved to be sustainable for buyers/sellers and play an important role in global business environment (Dyer, 2000; Stockdale and Standing, 2004). The majority of participants in the B2B e-Marketplace are SMEs (Chong et al., 2010).

However, the literature on the understanding of the issues associated with performance of B2B e-Marketplace in conducting e-Marketing for SMEs is limited. Hence, there is an urgent need to understand the adoption issues confronted by SMEs especially from the e-Marketing standpoint. This research proposes fuzzy PROMETHEE to address this issue.

PROMETHEE (Preference Ranking Organization METHod for Enriching Evaluations) was firstly developed by Brans in 1982 at the conference (Brans, 1982), and then further developed as a family (Brans and Marechal, 2005). PROMETHEE I deals with a partial preorder, PROMETHEE II deals with a complete preorder, PROMETHEE III deals with an interval order emphasizing indifference, PROMETHEE IV deals with continuous set of possible alternatives, PROMETHEE V supports the optimization under constraints and PROMETHEE VI is a representation of the human brain. Behzadian et. al. (2010) reviewed a number of PROMETHEE's applications including the topics of environment management, hydrology and water management, business and financial management, chemistry, logistics and transportation, manufacturing and assembly, energy management, social, medicine, agriculture, education, design, government and sports. Brans and Marechal (2005) combined the fuzzy set theory (Zadeh, 1965) in the form of Dubois and Prade (1978), and the ranking method (Yager, 1981) into PROMETHEE, named F-PROMETHEE. The idea is that the fuzzy decision matrix is "defuzzified" as a crisp decision matrix, which satisfies the use of PROMETHEE. This research chooses the approach (Yuen and Ting, 2012) with some modifications of Brans and Marechal (2005), which the fuzzy number in the convention form is used to PROMETHEE II.

In the rest of this study, section 2 describes the steps for Fuzzy PROMETHEE II. Section 3 demonstrates the use of the fuzzy PROMETHEE II for evaluation in e-Marketing Services and e-Business Performance, and Conclusions and future study are given in Section 4.

## 2 FUZZY PROMETHEE II

There are four steps in Fuzzy PROMETHEE II. The details are as follows.

### Step 1: Formulate a fuzzy decision matrix

A typical m by n fuzzy decision matrix is shown as below:

$$\begin{matrix}
 & (\hat{w}_1 & \dots & \hat{w}_j & \dots & \hat{w}_n) \\
 & \hat{c}_1 & \dots & \hat{c}_j & \dots & \hat{c}_n \\
 \hat{T}_1 & \left( \begin{array}{cccccc} & & & & & \\ & & & & & \\ & & & & & \\ & & & \hat{r}_{ij} & & \\ & & & & & \\ & & & & & \\ \hat{T}_i & & & & & \\ & & & & & \\ & & & & & \\ \hat{T}_m & & & & & \end{array} \right) & (1)
 \end{matrix}$$

$\hat{c}_j \in \hat{C}$  is a fuzzy positive criterion. The criterion is a maximum criterion if the decision maker prefers more value for this criterion. Otherwise, it is a minimum criterion.  $\hat{T}_i \in \hat{T}$  is an fuzzy alternative.  $\hat{T}^*$  is the ideal fuzzy alternative from  $\hat{T}$ .  $\hat{r}_{ij} \in \hat{r}$  is the utility value.  $\hat{w}_j \in \hat{W}$  is the fuzzy weight of  $\hat{c}_j$ . In [10], Goumas and

Lygerou used the fuzzy number in the form  $(\eta, a, b)$ , which is equivalent to the conventional form of triangular fuzzy number  $(l, \eta, u)$  such that  $(l, \eta, u) = (\eta - a, \eta, \eta + b)$  where  $m - a$  is the low boundary  $l$ ,  $m + b$  is up boundary  $u$ , and  $\eta$  is the modal value. This paper uses the conventional form  $(l, \eta, u)$  as a fuzzy number.

### Step 2: Index fuzzy numbers in the fuzzy decision matrix

The fuzzy number in the fuzzy decision matrix can be “defuzzified” to the crisp number by the function:

$$I(l, \eta, u) = \frac{l + \eta + u}{3} \quad (2)$$

In other word, the above process converts a fuzzy decision matrix as a crisp decision matrix as follows:

$$\begin{matrix} (w_1 & \dots & w_j & \dots & w_n) \\ c_1 & \dots & c_j & \dots & c_n \\ T_1 \\ \vdots \\ T_i \\ \vdots \\ T_m \end{matrix} \begin{pmatrix} & & & & \\ & & & & \\ & & r_{ij} & & \\ & & & & \\ & & & & \end{pmatrix} \quad (3)$$

$c_j \in C$  is the positive criterion.  $T_i \in T$  is the alternative.  $T^*$  is the ideal alternative from  $T$ .  $r_{ij} \in r$  is the utility value.  $w_j \in W$  is the weight of the criterion  $c_j$ . The cap removal from the fuzzy notations is crisp value.

### Step 3: Calculate aggregated preference indices

$P_j(T_i, T_k) = P_j(d(T_i, T_k)) = P_j(r_{ij} - r_{kj})$  is a preference function showing that how much  $T_i$  prefers to  $T_k$  with respect to  $c_j$ . According to Brans and Maraeschal [5], six types of preference functions  $P(d)$ 's are proposed. Goumas and Lygerou [10] chose V-Shape with indifference criterion as the preference function for their demonstration. (Please note that the function forms presented in [10] are only for maximum criteria.) This study chooses Gaussian Criterion function as the preference function and has the form:

$$P(d) = \begin{cases} 0 & d \leq 0 \\ 1 - e^{-\frac{d^2}{2s^2}} & d > 0 \end{cases}, \text{ if the criterion is a maximum criterion.} \quad (4)$$

$$P(d) = \begin{cases} 0 & d \geq 0 \\ 1 - e^{-\frac{d^2}{2s^2}} & d < 0 \end{cases}, \text{ if the criterion is a minimum criterion.} \quad (5)$$

Aggregated preference index  $\pi(T_i, T_k)$  expresses the degree of how  $T_i$  is preferred to  $T_k$  over all the criteria. The aggregated preference indices are of the form:

$$\pi(T_i, T_k) = \frac{\sum_{j=1}^n P_j(T_i, T_k) \cdot w_j}{\sum_{j=1}^n w_j}, \quad \forall T_i, T_k \in T \text{ and } i \neq k \quad (6)$$

#### Step 4: Calculate outranking flow

Each alternative  $T_i$  is facing  $(m-1)$  other alternatives in  $T$ . In order to rank the alternatives, the outranking flows are defined as follows.

The positive outranking flow is of the form:

$$\phi^+(T_i) = \sum_{k=1}^m \pi(T_i, T_k) \quad (7)$$

The negative outranking flow is of the form:

$$\phi^-(T_i) = \sum_{k=1}^m \pi(T_k, T_i) \quad (8)$$

The net outranking flow is applied and is of the form:

$$\phi(T_i) = \phi^+(T_i) - \phi^-(T_i), \quad \forall i \in \{1, \dots, m\} \quad (9)$$

The positive outranking flow expresses how an alternative  $T_i$  is outranking all the others. The higher  $\phi^+(T_i)$  gives a better alternative. On the other hand, the negative outranking flow expresses how an alternative  $T_i$  is outranked by all the others. The lower  $\phi^-(T_i)$  gives a better alternative. The higher  $\phi(T_i)$  follows the better alternative.

### 3 The B2B e-Marketing Services and e-Business Performance

The linkage between B2B e-Marketplace and e-Marketing has received significant attention both as a technological innovation and as a major element for marketing performance (e.g. Noori and Salimi, 2005; Eid et al., 2006). Many authors (e.g. Kierzkowski et al., 1996; Cannon and Perreault, 1999; Chaffey, 2004) highlighted several dimensions of the e-Marketing services including:

e-CRM - Since B2B and CRM are online-based operations, they are sharing many similarities such as; relationships management (Kierzkowski et al., 1996), sales force automations (Chaffey, 2004), involved in the similar operations such as marketing, billing, shipping and customer services (Zeng et al., 2003). As B2B and CRM become more demandable to customers, it is predictable that the integration of CRM into the e-Marketing services will be value-added to the SMEs.

e-SCM - Many academics and practitioners (Serve et al., 2002; Albrecht et al., 2005; Angeles and Nath, 2007) believe that, by integrating SCM on B2B e-Marketing, companies can change their traditional B2B exchange methods to collaborate and share information via the Internet. The main purpose of SCM is to link the manufacturer's operations with their suppliers, customers and intermediaries (Angeles and Nath, 2007). Hence, the exploration on how B2B e-Marketplace links with companies' procurement process, operations, sales and marketing, and distributions process in different supply levels in partnerships with their stakeholders becomes important.

e-Competitiveness - The ability of the Internet to explore new markets is gradually becoming a main tool in marketing activities (Eid et al., 2006). The Internet can make various kinds of collaborations between companies to achieve sustainable competitive advantages in the global business environment (Rohm et al., 2004). However, the openness of the Internet and advances in software and applications means that companies can develop, design and copy best practices very quickly. Therefore, it is difficult for a firm to stay ahead from its rivals, because many companies can end up following similar marketing strategies. Hence, the B2B e-Marketplace with sustainable competitive' marketing technologies becomes increasingly important.

Transparency and Visibility of Information - The abundance of data available in B2B e-Marketplace is intended to make more information about trading party, markets, procurement and competition in the electronic business environment (Angeles and Nath, 2007). In such a transparent environment, buyers/sellers become easier to obtain competitive information. Hence, the investigation of transparency of information in B2B e-Marketplace is crucial to streamline business's information flow.

The main implication from the above studies indicated that organizations need to understand the e-Marketing services provided by B2B e-marketplace that are affecting their business processes to ensure business efficiency in the digital business environment. B2B e-Commerce is clearly a case of evolution as firms grow accustomed to do business electronically. Consequently, the importance of identifying the best selection of e-Marketing services for improved value chain in B2B exchanges is extremely important for business efficiency. However, the literature is limited and most research in the past has been either descriptive or theoretical and often ignoring the linkage with B2B e-Marketing services and e-Business performance.

The main objective for this study is intended to explore B2B e-Marketing services derived from B2B e-Marketplace for SMEs. We adopted Fuzzy PROMETHEE II Method to evaluate the identified criteria, and use the generated results to link to a firm's e-Business performance as follow:

**Step 1: Formulate the fuzzy decision matrix**

Following from the above literature, the study was able to identified four e-Marketing services that have direct impact on successful B2B firms:

- $C_1$  : e-CRM (Zeng et al., 2003; Chaffey, 2004);
- $C_2$  : e-SCM (Zeng and Pathak, 2003; Angeles and Nath, 2007);
- $C_3$  : e-Competitiveness (Eid et al., 2006; Rohm et al., 2004);
- $C_4$  : Transparency and Visibility of Information (Angeles and Nath, 2007).

Five B2B firms denoted by  $T_1, \dots, T_5$  are selected for the4 evaluation. The fuzzy weights and scores are given to alternatives with respect to all criteria in Table 1.

Table 1. Fuzzy Decision Making Matrix for e-Marketing services

Criteria	$C_1$	$C_2$	$C_3$	$C_4$
Value	Max.	Max.	Max.	Max.
$s$	5.5	5.5	5.5	5.5
Weight	(6,7,8)	(8,8,9)	(8,9,9)	(6,6,7)



$T_1$	(7,8,9)	(6,7,8)	(6,7,8)	(7,7,8)
$T_2$	(7,7,8)	(6,8,8)	(7,7,8)	(6,7,8)
$T_3$	(6,7,8)	(6,7,7)	(6,7,7)	(6,7,7)
$T_4$	(8,8,9)	(7,8,9)	(6,7,8)	(7,8,9)
$T_5$	(8,9,9)	(6,7,8)	(8,9,9)	(5,6,7)

**Step 2: Index fuzzy numbers in the fuzzy decision matrix**

The fuzzy decision matrix is “defuzzified” by eq.(2) to the crisp decision shown in Table 2.

Table 2. Decision Making Matrix After Indexing

Criteria	$C_1$	$C_2$	$C_3$	$C_4$
Weight	7	8.333	8.667	6.333
$T_1$	8	7	7	7.333
$T_2$	7.333	7.333	7.333	7
$T_3$	7	6.667	6.667	6.667
$T_4$	8.333	8	7	8
$T_5$	8.667	7	8.667	6

**Step 3: Calculate aggregated preference indices**

With respect to the crisp decision matrix in the above step, the aggregated preference index matrix for the alternatives is shown in Table 3. The Gaussian criterion is chosen for all criteria where the parameter  $s$  for each criterion is presented in Table 1.

Table 3. Aggregated preference index matrix

	$T_1$	$T_2$	$T_3$	$T_4$	$T_5$
$T_1$	0	0.003	0.008	0	0.007
$T_2$	0.001	0	0.006	0.001	0.005
$T_3$	0	0	0	0	0.002
$T_4$	0.008	0.011	0.026	0	0.021
$T_5$	0.017	0.018	0.035	0.016	0

**Step 4: Calculate outranking flow**

Using the aggregated preference indices, the positive, negative and net outranking flows are shown in Table 4. B2B Firms 1 to 3 have negative net outranking flows, and should not be considered, whilst firm 5 ( $T_5$ ) is the best candidate, followed by  $T_4$ . The major reason is that the firm 5 is of better performance in e-Competitiveness ( $C_3$ ) with the highest weight, which offsets the disadvantages in e-CRM ( $C_2$ ), as well as Transparency and Visibility of Information ( $C_4$ ), comparing with the other firms.

Table 4. Outranking flow indices and rank

	$\phi^+$	$\phi^-$	$\phi$	Rank
$T_1$	0.017	0.027	-0.009	3
$T_2$	0.013	0.032	-0.019	2
$T_3$	0.002	0.074	-0.072	1
$T_4$	0.066	0.017	0.049	4
$T_5$	0.087	0.035	0.051	5*

#### 4 CONCLUSION

This study proposes the fuzzy PROMETHEE II for the e-Marketing Services and e-Business Performance. The adopted approach (Yuen and Ting, 2012) modifies the structure of Fuzzy PROMETHEE in (Goumas and Lygerou, 2000) in three aspects: representations of a fuzzy number and a ranking method in the convention way, use of fuzzy weights, as well as use of Gaussian criterion functions. Further study will explore more detailed evaluation dimensions for e-Marketing Services and e-Business Performance, and more comprehensive decision model, for example, integrating fuzzy Cognitive Network Process (Yuen 2009, 2011, 2012) into the further improved Fuzzy PROMETHEE method.

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## LEARNING-ORIENTED INTERNATIONALIZATION OF CHINESE FIRMS

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### ABSTRACT

#### 1. PURPOSE

The purpose of this research is to explore the internationalization strategies of Chinese firms. This research examines three key dimensions of such learning-oriented internationalization; namely depth, breadth and speed, and identify the antecedents of these dimensions, such as a firm's global leadership aspiration, its home market dominance, government support, and foreign firms' willingness to sell. We further elaborate on the performance implications of a learning-oriented internationalization strategy and examine two important moderators, R&D capability and managerial skills, which significantly affect the relationship between the learning-oriented internationalization and firms' overseas performance.

#### 2. DESIGN/METHODOLOGY/APPROACH

This study involved collecting qualitative data from senior managers of Chinese firms. The data were used to explore propositions relating to the impact of internationalization strategies.

#### 3. FINDINGS

In our research we build on and expand current work on internationalization strategies by pointing out that Chinese firms use internationalization to actively enhance their overall competitiveness through learning. We posit and show that Chinese firms internationalize not just to acquire strategic resources, but to pursue learning through internationalization. In other words, internationalization is not the end but a means through which critical learning can be accomplished.

#### 4. ORIGINALITY/VALUE

This study is one of the first to present a framework that examines three key dimensions of a learning-oriented internationalization strategy, namely depth, width and speed, and identifies the antecedents of these dimensions as well as performance implications. Given the current economic environment, an understanding of learning-oriented internationalization of emerging market firms is increasingly important from a managerial and policy perspective. Our analyses are based on recent data and provide timely implications for theory and practice.

Keywords: Internationalization, learning, R&D capability, managerial skills, Chinese multinationals

## DOING BUSINESS IN CHINA: WHAT IS THE USE OF HAVING CONTRACTS?

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### ABSTRACT

Contracts in China do not appear to have the same binding effect as it does in the Western world. For example, in China when the economic situation underlying a contract changes, the Chinese party expects terms of the contracts to be renegotiated. Furthermore, because of weak courts, enforcement of contractual terms is uncertain (Yao, Y. & Yueh, L., 2009). So, what is the use of having a contract in the first place? Is there no rule of law in China?

This article sets out the proposition that there is rule of law in China. However, contracts and the laws in China must be interpreted from the Chinese perspective. That perspective is that relationship (otherwise known as “guanxi”) is paramount to the terms and conditions of contracts. Contracts merely formalize a relationship that presumptively is based on mutual respect and trust. So if the situation changes, contract terms should be modified out of mutual respect and trust for each other (Ambler, T., Witzel, M., & Chao X, 2008).

Furthermore, this article argues that guanxi is being institutionalized by way of concepts written into the laws of China and the manner in which the courts of China interpret those laws, so that guanxi must be understood in order to successfully do business in China. Nonetheless, it is recognized that as China is becomes a global player in the world markets, she will be forced to adhere to generally accepted international standards for commercial dealings. This may cause an erosion of guanxi to a certain extent, but we believe guanxi will remain at the core of business practices in China.

Key Words: China, guanxi, everyday guanxi, special relationship guanxi, rule of law, doing business in China, China’s Contract Law

### 1 INTRODUCTION

In March 2010, Australian citizen Stern Hu and three of his Chinese colleagues were sentenced to lengthy prison terms for bribery and stealing commercial secrets. Mr. Hu and his colleagues were executives of Australian iron ore mining company Rio Tinto. They were convicted of taking kickbacks from steelmakers to arrange preferential access to iron ore. The charges for stealing commercial secrets were not

clearly stated in the lawsuit (Restall, H., 2010).

In the early 2000s, China's steel industry significantly expanded capacity. As demand for iron ore soared, so did market prices. Rio Tinto began to back out of its contracts claiming "force majeure". Contracts were renegotiated at 87% higher prices. When the demand for iron ore weakened during the economic crisis at the end of 2008, the Chinese buyers walked out of contracts with Rio Tinto. But then, demand for iron ore rose again by the middle of 2009 as the result of Beijing's fiscal stimulus program. Rio Tinto took this opportunity to demand higher prices again. Given this hostile relationship, reportedly someone from the Chinese buyers' side alerted the Chinese authorities to investigate Rio Tinto for wrongdoing. The investigation culminated in Mr. Hu and his colleagues being arrested on July 5, 2009 (Restall, H., 2010). Looking back at the events that led up to the convictions, arguably, the principal reason the Rio Tinto executives were imprisoned is that trust broke down as a result of the failure to establish strong *guanxi* relationships of mutual respect.

So, is there any rule of law in China? Do contracts mean anything? Are contracts merely an agenda symbolizing progress, but nothing more, since it is merely proof that both sides have grown close enough to want to develop a trusting business relationship (Ambler, T., Witzel, M., & Chao X, 2008).? Some foreign executives who do business in China are of the opinion that what matters most are relationships; contracts carry very little weight (Life in China, 2009).

The purpose of this article is to address the following research question: *what is the usefulness of contracts in doing business in China?* We theorize that its usefulness depends on understanding its importance from the Chinese perspective – which is that contracts are vehicles for establishing a *guanxi*-type relationship of mutual trust and respect. To the Chinese, *guanxi* is a personal connection to which the parties are bounded by an implicit psychological contract to maintain a long term relationship, mutual commitment, loyalty, and obligation beyond the bounds of a written contract (Chen, X.P. & Chen, C.C., 2004). Nonetheless, as subsequently hypothesized in this article, there are boundaries as to what is acceptable and not acceptable when it comes to implementation and enforcement of that psychological contract.

This article starts by summarizing the foundations of *guanxi* handed down from generation to generation in order to illuminate the Chinese perspective of laws and contracts. We argue that *guanxi* is not incompatible with the rule of law, and in fact is supported by the general principles of the law of contracts. The question remains as to how *guanxi* may change as China continues to modernize and globalize. This is left for further research, but we hope that our article will be an important link to that future analysis.

## 2 LITERATURE REVIEW

### **Contracts from the Chinese perspective.**

China has promulgated thousands of laws, especially as she opens up to the world as a major player in the global market. It became a priority for China to firmly establish its commitment to the rule of law. The Chinese rulers did so in 1999 by amending their constitution to enshrine that principle (Orts, E.W., 2001). So, there is rule of law in China, but in practice how is it being implemented and interpreted? To understand how the Chinese view laws as they related to contracts, one must look

back at China’s several thousand years of history and tradition. Notably, Confucian teachings have a strong influence on Chinese thinking. Guanxi is a Confucian heritage passed on from generation to generation, and remains in the soul of the Chinese (Chen, X.P. & Chen, C.C., 2004). Confucius emphasizes moral standards over formal law (Zhang, M., 2005). Such moral standards include mutual trust and respect cultivated through strong relationships (otherwise called “guanxi”). Buddhism also influences the approach of the Chinese to law and contracts. Buddhism emphasizes social harmony and frowns on direct confrontation (Pan, Y., Rowney, J.A., & Peterson, M.F., 2012). Therefore, for example, the Chinese tend to avoid disagreeing directly. To the Chinese, maintaining relations is a deeply embedded social value and paramount to the law. A contract is merely a formality, and entered into without much consideration to legal enforcement (Leonhard, C., 2009). In contrast, Westerners are more direct and approach dealings in linear logic fashion with clear alternatives – if option A is not acceptable, then go to option B, etc. The Chinese, on the other hand, in order to establish a solid basis for a strong relationship going forward, may examine ways to combine option A and option B, or take different parts of each option (Ambler, T., Witzel, M., & Chao X, 2008). The following chart (*from* Doing business in China, 2009) shows the differences in approaches:

<b>Chinese Culture</b>	<b>Western Culture</b>
Group oriented	Oriented to the individual
Relationship driven	Goal driven
Conflict averse	Inclined to address points of conflict
Seeks harmony, avoids confrontation	Seeks immediate resolution of issues
Communication is top down	Communication is multi-directional
“No” terminates negotiations	“No” means “make me another offer”
“Yes” enables negotiations to continue	“Yes” is an agreement to close the deal

But aside from philosophy, there also were practical reasons for relying on relationships. When China was still an agricultural society, laws were fewer and there were lack of institutions for effective enforcement of whatever laws there were. Consequently, people had to rely on guanxi rather than on laws to do business. People dealt with family and friends based on the assumption they will be around the same community long enough to reciprocate favors (Ambler, T., Witzel, M., & Chao X, 2008). During recent Chinese history, the Cultural Revolution, again guanxi became important as the only way to get things done through difficult times (Gold, T.B., 1985). As capitalism came to China, it continued to be practiced under the principle of guanxi that was based on the assumption that the parties will be reachable, otherwise the social capital created by reciprocal favors will not be of any value (Gold, T.B., 2002). While the West was more transaction-oriented in their business dealings, the Chinese remained more relationship-oriented. Americans want to sign up the deal or project first, and then develop relationships afterwards. The Chinese want to deal with people they know, like and respect first, then do the transaction or project. If anything goes wrong, the Chinese expected that the counterparty would be contactable and would deal with problems in such a manner as to maintain a long-term relationship (Gold, T.B., 2002). That relationship must be based on mutual respect, realism and flexibility that evolve over time. If the situation changes to the detriment of any party, then the parties must discuss it and be prepared to modify the terms of the deal. The Chinese want a partnership relationship mutually advantageous to all parties (Gold, T.B., 2002). Therefore, the Chinese establish a trusting relationship first, and then business transactions. Westerners negotiate transactions first, and then wait for relationships to follow (Gold, T.B., 2002).

So, does that mean there is no rule of law, since legal contracts can be supplanted under the guise of the importance of guanxi? Although guanxi and “face” (which equates to respect) are at the core of doing business in China (Park, 2001), it is not alien to what is done in other parts of the world. Actually, it is similar to what is practiced in other countries in Asia, Africa, South America, and even in the capitalist West. No matter where you are, business relationships that do well and last are those that are based on mutual trust and face, which means, among other things, the willingness to accommodate unforeseen difficulties encountered by your counterparty (Park, S.H., 2001). Guanxi is compatible with capitalism and it can coexist with the rule of law (Scott, 2008). Whether or not guanxi is compatible with the rule of law depends on how guanxi is practiced.

### 3 THEORY BUILDING

#### **What is acceptable guanxi?**

There is a difference between “everyday guanxi” and “special relationships”. Everyday guanxi is where the Chinese party has had dealings with ministries, regulators, supply chain and distribution channels so is familiar with the way they work and their standard operating procedures. He knows what will be acceptable and what may not be acceptable, but all within the standard operating procedures. “Special relationships” guanxi is what gets you in trouble because this often involves bribes to get things done through a close relative or an official or executive or a customer or supplier to obtain approvals of deals outside of standard operating procedures (Luo, Y. 1997). Because guanxi easily can blur the line between legitimate business dealings and corruption, one needs to be careful as to what type of guanxi is being used. Remember that China does have laws, and the Chinese have high regard for bureaucracy, procedures and regulations (Luo, Y. 1997).

The use of guanxi to expedite matters within standard operating procedures is acceptable and can co-exist with the rule of law, being no different than hiring consultants who have knowledge and experience in handling matters.

*Proposition 1: Everyday guanxi is a positive moderator of the rule of law, whereas special relationships guanxi is a negative moderator of the rule of law.*

#### **What do the Chinese expect in their relationship with foreign partners?**

That relationship starts with the parties identifying and creating a guanxi base through familiarization and then establishing a commonality of values and goals (Chen, X.P. & Chen, C.C., 2004). It is not enough to just show the Chinese party your business plan and how profitable a venture with you can be. They want to know you as an individual. Are you a person they can trust? Will there be mutual respect for the views of each party? Trust and mutual respect means you must be willing to compromise. They do not separate business life from personal life. So, you need to go out to dinner with them, have fun with them, etc. You must show you are willing to share information, involve them in product development, give them better terms, help them finance their raw materials, etc. The Chinese want you to be a real partner with them in terms of a long term commitment to working together for the benefit of all partners (Gold, T.B., 2002). However, this does not mean you do not take care to protect your interest. Among other things, you still need to protect your intellectual property with appropriate clauses in the contract, and ensure that your interpretation of contractual duties and obligations are consistent with the understanding of your counterparty (Yu, P.K., 2005). It is just that when unforeseen events cause major



difficulties for your counterparty, you exhibit trust and respect by your willingness to renegotiate suitable terms.

Guanxi, in the context of contracts, means being real partners - exhibiting trust and respect by willingness to help each other in difficult times, even to the extent of willingness to renegotiate terms when unforeseen events occur.

*Proposition 2: - Guanxi moderates the willingness of parties either to stick to contractual commitments or renegotiate contractual terms.*

### **The obligations of guanxi should not be taken lightly.**

One must be willing to exchange personal favors. But, beware of excesses that trap you. Small gifts are expected and appreciated; large ones can become bribery. Small gifts generally are taken as a show of appreciation and respect, whereas large gifts imply an obligation for the recipient to do something which may not be strictly in accordance with acceptable practices. Aside from size of the gifts being one distinction, another important distinction is that guanxi is for long term relationship whereas bribery is for short term benefits (Lovett, S., Simmons, C. & Kali, R. 1999). Also note that there is a different standard for Westerners when it comes to acceptability of guanxi. Westerners are not only accountable to the laws of their own countries, but also Chinese regulators hold Westerners to a higher standard (Luo, Y. 1997).

Guanxi results in real obligations that should not be taken lightly in terms of favors that must be reciprocated, but also in terms of what is appropriate within the bounds of legality in China and your home country.

*Proposition 3: Guanxi can lead to better business results in China provided the reciprocity of gift giving is moderated to stay within boundaries of the rule of law in terms of appropriateness of the gifts.*

### **Guanxi is supported by general principles of commercial law.**

Westerners view contracts as a list of legally binding rights and obligations. Chinese see contracts only as a list of expected rights and obligations, depending on the situation (Buttery, E.A., 1998). Using the principle of mutual trust and respect underpinning guanxi, if the situation changes, there should be flexibility to change legally binding terms and conditions set out in contracts. Otherwise, each party remains bound by such terms and conditions of the contract.

This guanxi approach is supported by three principles of commercial contract law – fairness, good faith, and the safeguarding of public morality. These principles play a fundamental role in how contracts are performed and how disputes are resolved. Instead of strict compliance to the terms and conditions set out in contracts, the Chinese expect a fairness approach, thus renegotiation of contract terms to account for changing circumstances. Furthermore, if disputes arise, the Chinese party generally will insist on some form of renegotiation before beginning formal dispute-resolution proceedings (Graham, J.I. and Lam, N.M., 2003). Renegotiating is akin to the parties agreeing to mediation, so is compatible with the rule of law. Mediation is a guanxi approach since it is in the tradition of Confucianism, meaning to find a mutually acceptable solution without any party losing face (Ge,J.,1996-1997; Clarke,D.C. ,1991).

Moving forward, China has institutionalized guanxi into its legal system. On

March 15, 1999, at the Second Session of the Ninth National People's Congress, the new unified Contract Law of the People's Republic of China was adopted and came into force on October 1, 1999. The General Provisions of this new Contract Law were similar in spirit to those contained in Principles of International Commercial Contracts established by the International Institute for the Unification of Private Law (UNIDROIT), an intergovernmental organization consisting of 63 members including the United States and China. Articles 3 through 7 of the new Contract law set forth the basic principles of equality, party autonomy, fairness, good faith, and public interest. Although in different words, these principles are embodied in the UNIDROIT Principles (Zhang, Y & Huang, D, 2000). Such principles can be said to be analogous to guanxi and, thus, incorporated into the rule of law as a generally accepted international principle under UNIDROIT.

*Proposition 4: Given the institutionalization of guanxi into China's legal system the interpretation of the rule of law by contracting parties when doing business in China will be influenced by the guanxi way of thinking.*

### **Guanxi remains a strong social force in modern day China.**

In the earlier days of China, being a highly centralized, bureaucratic state, guanxi became the counterpart of a commercial legal system (Ambler, T., Witzel, M., & Chao X, 2008). Even as the commercial legal system developed, guanxi remained. (Graham, J.I. & Lam, N.M., 2003).

Ever since 1978 when China opened its doors to foreign direct investment, foreign investors and attorneys have contributed to legal reforms and the rule of law in China. Notwithstanding such legal reforms, foreigners also use guanxi to achieve their goals. The result was a "layering" or "bricolage" of guanxi to combine existing institutions with new legal forms introduced by foreigners (Scott, W., 2008).

Although the Chinese like to deal with family and friends, it was based on the assumption they will be around the same community long enough to reciprocate favors. Therefore, it would seem that guanxi should become less important as more people move to cities (Ambler, T., Witzel, M., & Chao X, 2008). But, even though guanxi may be weakened due to population mobility, it still remains an important social force (Graham, J.I. & Lam, N.M. 2003),

*Proposition 5: Although the continuous development of a commercial legal system and population mobility may modify guanxi, guanxi will remain an important social force in China.*

### **Guanxi is an important part of a market economy.**

In modern day China, guanxi maintains its importance as a social force through an institutional structure that reinforces its culture. That structure separates out "everyday guanxi" and "special relationships guanxi" (for definitions, please refer to the section above on "What is acceptable guanxi"). Everyday guanxi is the establishment of good business relations, and is an important part of a market economy. Special relationships guanxi is using social relations to take care of procedures in economic and political situations. The former is acceptable as good business practice, while the latter is corruption and is fading in relevance in industrial China as economic reform progresses. Today, as an emerging rational legal system is constructed by China, business enterprises pay increasing attention to laws, rules and regulations. Arguably, this is because the Chinese government closely monitors large-scale commercial and industrial organizations. Furthermore, competitive market

forces drive such organizations to focus on quality and service instead of relying on special relationships *guanxi* to gain a competitive advantage (Guthrie, D., 1998). But what about private entrepreneurs who are outside of the state coordinated forms of capitalism, including large and powerful state enterprises? Private-company executives continue to be more dependent on special relationships *guanxi* for protection than state-owned enterprises. (Xin, K.R. & Pearce, J.I., 1996). Special relationships *guanxi* is still needed to bridge the gap between the logics of their free-wheeling private capital accumulation and an economy controlled by the state (McNally, C.A., 2011). However, as China's market economy and legal system continues to develop, the need for special relationships *guanxi* by private-company executives should fade.

The establishment of good business relations through "everyday *guanxi*" is good business practice for a market economy, while "special relationships *guanxi*" (using social relations to take care of procedures in economic and political situations) is not as it amounts to corruption. Therefore, the latter eventually will fade in relevance in favor of competitive market forces as a rational and effective legal system is constructed in China.

*Proposition 6: As China's market economy and legal system develops, guanxi will be modified by competitive market forces that favor product quality and the establishment of good customer and supplier business relationships over special relationships guanxi that depends solely on social relationships to get things done.*

#### **4 DISCUSSION AND CONCLUSIONS**

*Guanxi* is fundamental to understanding how the Chinese view contracts and its performance. It is deeply rooted from thousand years of history and tradition, and is an integral part of Chinese culture. It has been handed down from generation to generation, either consciously or subconsciously, through the teachings of Confucius and Buddha, and remains in the sole of the Chinese people. Confucianism emphasizes moral standards over formal law, and Buddhism stresses social harmony and frown on confrontation. Consequently, it is more than merely developing a relationship. *Guanxi* requires mutual trust and respect. Given such a mindset, the Chinese approach to commercial dealings is that a relationship is paramount to the terms and conditions set out in contracts. Contracts are situational base, not transaction based as is the approach of Westerners. If the situation changes, then based upon mutual respect and trust, the parties renegotiate the terms of the contract. According to Western paradigm, this would mean there is no rule of law. However, it is arguable whether or not Western legal concepts can or should be used to supplant deep rooted cultural values that underpin the China legal system (Leonhard, C., 2009)..

*Guanxi*, or relationships, was essential for getting things done during the earlier days of China when the legal institutions were in their infancy. As China transitioned into becoming a major player in the global arena, she adopted new laws accordingly to conform to international standards of commercial dealings but, in doing so, incorporated *guanxi* into her legal system. The importance of *guanxi* remains in the psychic of the Chinese people. Consequently, there is the rule of law in China, but one must interpret contracts in terms of its usefulness and the laws of China with *guanxi* in mind.

#### **Contribution to Research.**

This article postulates that *guanxi*, acting as a modifier, can co-exist with the rule

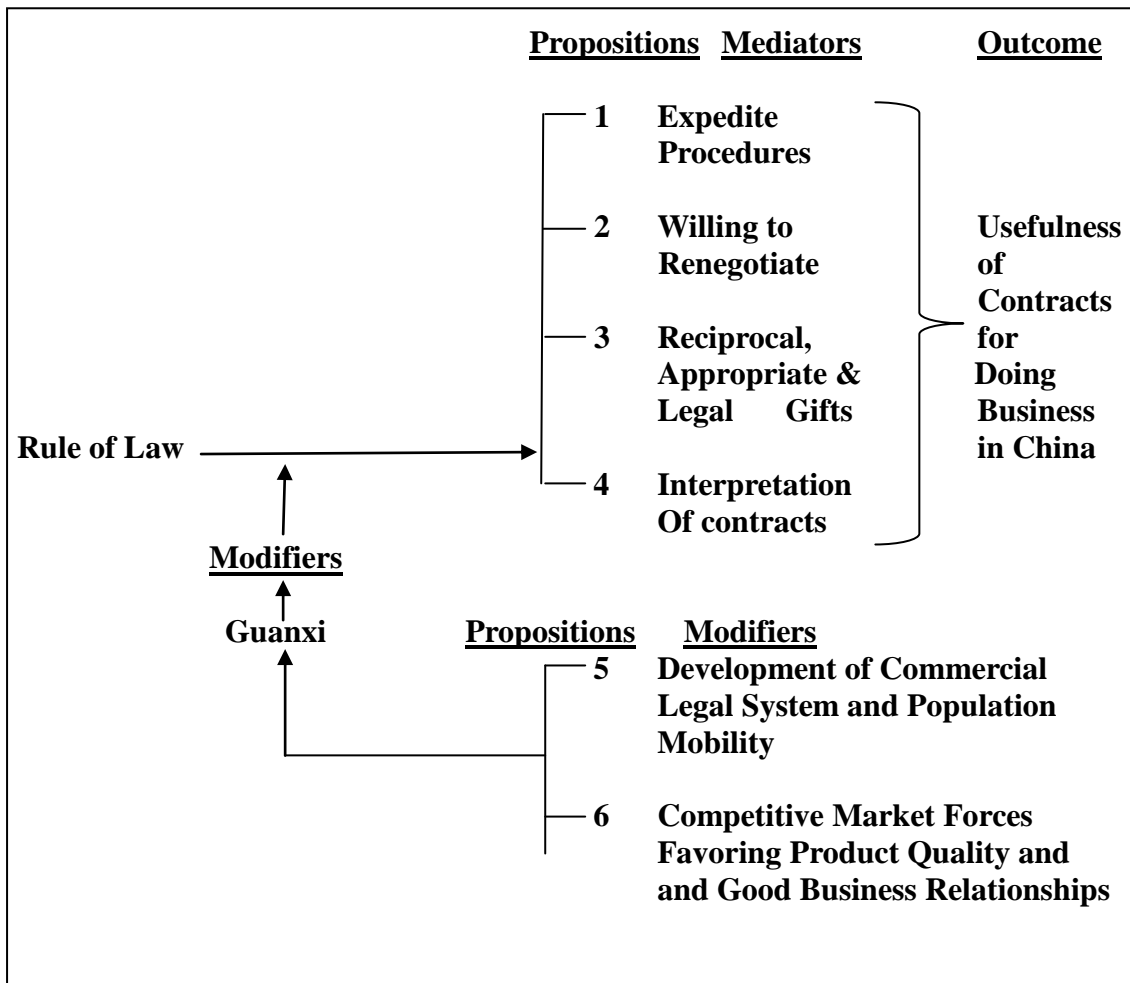
of law and, in fact is being institutionalized into China's legal system. The usefulness of contracts depends on guanxi. Guanxi, which involves reciprocal giving of favors, can expedite procedures and help resolve contractual disputes to preserve long-term relationships for the mutual benefit of all parties – all within the rule of law. Guanxi is good business practice similar to what is actually being practiced in capitalistic economies. To have guanxi means establishing a psychological contract of mutual respect and trust, to be exhibited by the willingness to renegotiate contract terms if necessary to help the counterparty during difficult unforeseen times. This results in good business relations, which is essential for building competitiveness in a market economy.

We also argue that, notwithstanding the development of a commercial legal system in China, and population mobility that decreases the likelihood of reciprocal favors being honored, guanxi will remain an important social force through an institutional structure that reinforces it. However, the part of guanxi that uses social relations to take care of procedures in economic and political situations (special relationships guanxi) will fade.

### **Implications for practice and further research.**

The primary objective of this article is to develop a useful model, as demonstrated in **Figure I** below, to assist practitioners to understand the Chinese perspective of contracts, and to provide a foundation for further research to validate the propositions upon which our arguments are based.

**Figure 1**



Contracts in China are useful and needed to set out the terms and conditions of the parties and their working relationship. But, as illustrated in **Figure 1**, the rule of law that applies to the formation and implementation of those contracts is modified by guanxi - which in turn can expedite procedures, increase willingness to renegotiate when confronted with unforeseen difficulties, develop respect and trust through reciprocity, and create a mindset for interpreting contracts in such a way as to foster long term relationships. However, guanxi itself also is being modified by the development of China's legal system which reduces dependence on relationships, and by competitive market forces which favors product quality and good customer and supplier relationships (as opposed to special personal relationships)..

Obviously, our model is not all inclusive and other modifiers of guanxi and resulting mediators of the rule of law will need to be considered. Nonetheless, hopefully, our model will at least provide a useful framework for further research. For that further research, you may wish to consider the following possibilities.

Given the proposition that guanxi is being institutionalized and layered into the formal legal system of China, more research needs to be done on how this works in practice. One must recognize that China is a huge country where interpretation and enforcement of laws are not yet uniform. Consequently, the need for relationships to get things done becomes the counterpart of a commercial legal system, and this can vary from region to region. It also can vary from industry to industry, since some industries are more regulated and protected than others. There are many other

situations where the importance of relationships can vary; for example, relationships are more important for private entrepreneurs; and relationships will not be as important where the dealings are on a short-term one-off basis.

There also are variations caused by time, so that the propositions presented by this research must be constantly updated to see where they may lead. One possible view is that, as international conventions imposed by such organizations such as the World Trade Organization are imposed on China as the price to pay for being part of the global community, despite deep rooted cultural values, guanxi eventually will be eroded and even eliminated by Western style rule of law. On the other hand, some commentators believe that the survival of guanxi is not so much an economic issue as a practical dependency issue. Guanxi networks are like clubs that guarantee its members the enforcement of their rights - more cost efficient than legal systems that require lawyers, time spent in courts, etc. However, in the longer term, when club members become too many in number to be effective and as enforcement through China's legal system improves, the legal system may become a better alternative to the guanxi network (Schramm, M. & Taube, M., 2003).

Another interesting theory is that both the Western rule of law and the Chinese guanxi approaches are defective since their underlying economic systems are based on an incomplete model of trust. Lack of trust decreases market efficiency and increases transaction costs. Therefore, instead of the guanxi model being replaced by the Western model, both models will eventually converge as they move towards a complete model of trust (Lovett, S., Simmons, C. & Kali, R., 1999).

Obviously, much more research needs to be done, particularly using empirical analyses to support the many possible theories about guanxi and the rule of law. Hopefully, this article is another step forward.

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# Tourism Management & Management

14:45-16:15, December 16, 2012 (Room 4)

**Session Chair:** *Prof. Hongyu Ma*

## 1768: Exploring Operating Efficiency of Tourist Shuttle Routes in Taiwan

*Jung Hsuan Huang*

*National Taiwan Normal University*

*Chin-Yi Fang*

*National Taiwan Normal University*

## 1744: Leisure and Economic Efficiency: A Panel Analysis in OECD Countries

*Xiang Wei*

*Beijing International Studies  
University*

*Hailin Qu*

*Oklahoma State University*

*Hong Fan*

*Beijing International Studies  
University*

## 1777: The Relationship of Work-Family Balance and Work-Family Conflict and Enrichment

*Hongyu Ma*

*Central China Normal University*

*Chuangang Shen*

*Central China Normal University*

*Hanying Tang*

*Central China Normal University*

*Bin Wang*

*Central China Normal University*

## 1670: Study on the Flexible Manufacturing of Continuous Process Enterprises with Large Scale and Multiple Products

*Xu Yi-Gang*

*University of Electronic Science and  
Technology of China*

*Du Yi-fei*

*University of Electronic Science and  
Technology of China*

*Zeng Yong*

*University of Electronic Science and  
Technology of China*

*Li Shi-ming*

*University of Electronic Science and  
Technology of China*

## 1778: Developing Business Models For Radical Innovations: A New Venture's Perspective

*Yann Truong*

*ESC Rennes School of Business*





## Exploring Operating Efficiency of Tourist Shuttle Routes in Taiwan

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### ABSTRACT

Taiwan tourist shuttle routes had been developed and promoted by the Taiwanese Tourism Bureau since 2010. This paper assesses and compares the efficiencies of 20 Taiwan tourist shuttle routes using the two-stage data envelopment analysis (2SDEA). Two outputs including number of passenger and route revenue, and three inputs including number of bus station, fuel cost, and frequency of bus are assessed by the data envelopment analysis (DEA) in the first stage. There are four environmental variables, including five characteristics of tourist shuttle route (bicycle, cultural tour, hot spring tour, hiking routes, innovation routes), the shortest distances between tourist shuttle routes for examining complementary and substitutive effects, and years of service, and seasons in the second stage using truncated regression with bootstrapped procedure.

The empirical results of this study were fourfold: (1) Identifying the efficient tourism shuttle routes through the first stage of DEA. The first three efficient routes are Kending Express Line, Dongshan River Route and Alishan Route which were far away from city and had the most frequent bus in their routes in 2011. The TTB could make further operation improvement for each inefficient tourism based on the slack analysis from DEA; (2) Investigating the most influential environmental factors on the efficiency of tourism bus routes through the 2SDEA. The hot spring routes had more significantly positive impact on the efficiency than the other routes, however, the cultural tour routes had the significantly negative impact on the efficiency than the other routes; (3) comprehending the substitution effects existed among tourism shuttle routes in Taiwan. For example, Lion's Head Mountain Routes and Lion's Head Mountain Nanzhuang are in the same city as well as located close with each others. The empirical result revealed that tourist preferred visiting only one route to both routes at one time; (4) Seasonal factors had no significant impact on the operating efficiency of the tourism routes. Future research could incorporate the customer satisfaction index and explore the favor tour route for different area of inbound visitors.

Keywords: Efficiency, 2SDEA, Tourism Shuttle Routes, Slack analysis

## Leisure and Economic Efficiency: A Panel Analysis in OECD Countries

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### ABSTRACT

Economists most time, if not all, derive production efficiency from activities engaged in during the working time, instead of the leisure time. Sociologists, on the other hand argue that the leisure time has a dual role in the production process in that it not only acts as a substitute to working time but can also improve production efficiency through its effects on affecting individuals' self-development. Using empirical data from nineteen OECD countries the paper finds that: leisure time is nonlinearly associated with economic efficiency, which is defined as GDP per capita per work hour. The leisure time which, despite playing a negative role in economic efficiency at the beginning, turns out to enhance economic efficiency as economy development proceeds.

Keywords: Leisure, Economic Efficiency, Panel Analysis

### 1 INTRODUCTION

The neoclassical perspective of intertemporal substitution model (i.e., Mankiw, et al.; 1985; Eichenbaum, et al., 1985; Ioannides and Taub, 1992) considers leisure time as a pure substitute for working hours and ignores the possibility of the positive economic effects of leisure time. As argued by most of socialists, individuals tend to increase their happiness and working efficiency by raising self-esteem, self-awareness, determination, creativity, and exploration in various leisure activities (Csikszentmihalyi, 1975; Gunter, 1979; Hills and Argyle, 1998; Galit, 2007 ; Gould et al , 2008; ). This implies leisure activities could create positive externalities and improve human capital accumulations of individuals which enhances production efficiency when people return to work (Psarianos, 2007; Gòmez, 2007; Monte,2008).

The purpose of this study, thus, is to extend the classical endogenous growth model (Lucas, 1988; Mankiw, Romer, and Wei, 1992) by including the leisure in the production and examine the role of leisure in determining economic efficiency both theoretically, and empirically using a panel of 19 OECD countries from 1970-2000.

The paper is structured as follows. Section II provides a basic set up of a theoretical model. Section III specifies the empirical model and describes the data source. Section IV reports the results. The last section concludes.

## 2 THEORETICAL MODEL

Following Lucas (1988) while treating education time exogenous (Mankiw, Romer and Weil, 1992)[footnote 1], we specify the following production function,

$$Y = \bar{A}K^\beta(uH)^{1-\beta} \quad (1)$$

where  $K$  is total capital[footnote 2],  $H$  is human capital;  $\beta$  is output elasticity of physical capital;  $u$  is education time;  $\bar{A}$  represents technical level. When considering of the positive effect of leisure time, the accumulation path for  $\bar{A}$  is,

$$\bar{A} = AK^\alpha l^{1-\alpha} \quad (2)$$

where  $A$  is the parameter of technology level; and the term  $l$  denotes leisure time.

Equation (2) shows that technology accumulation combines two processes: the process of “Learning by Doing” ( $K^\alpha$ ) and the process of “Learning by Leisure” ( $l^{1-\alpha}$ ) as we call it[footnote 3]. The former process has been clearly elaborated by Romer (1986). The latter implies that if activities engaged in during leisure time are well-liking and constructive (reading or mountain climbing for instance), they benefit individuals’ physical strength, willpower, and creativity. The creativity generates positive externalities and improves the overall level of technology in economy (Romer, 1990; Jones, 1995).

Assuming that human capital accumulation follows an exponential path (Mankiw, Romer, and Weil, 1992), after introducing leisure time into the model, the new path takes the form,

$$H = e^{\psi_1 u + \psi_2 l} L \quad (3a),$$

$$\text{or} \quad h = e^{\psi_1 u + \psi_2 l} \quad (3b)$$

where  $L$  represents untrained workforce,  $\psi_1$  denotes the magnitude of how education time ( $u$ ) affects the formation of human capital ( $d \ln H / du = \psi_1$ ). Similarly,  $\psi_2$  denotes the magnitude of how leisure time ( $l$ ) affect the formation of human capital ( $d \ln H / dl = \psi_2$ ), which we call the “Advancing by Leisure” effect. In other words, through various constructive leisure activities, individuals will increase self-fulfillment and self-realization, creativity, exploration and productivity (Csikszentmihalyi, 1975; Barnett, 2006; Galit, 2007). This implies in Equation (3b) that  $d \ln H / dl = \psi_2 > 0$ .

Substituting Equation (2) into Equation (1), we get the production function with leisure time,

$$Y = AK^{\alpha+\beta}(uH)^{1-\beta} l^{1-\alpha} \quad (4)$$

Dividing both sides of Equation (4) by “per capita per hour”, which is  $(1-\mu-l)L$ , we get

$$\hat{y} = Ak^{\alpha+\beta}(uh)^{1-\beta} L^\alpha \frac{l^{1-\alpha}}{1-u-l} \quad (5)$$

where  $\hat{y}$  measures the economic efficiency, defined as output per capita per hour worked. The denominator  $(1 - u - l)$  indicates the time constraint where total time is normalized to one.

Based on Equation (5), we know that economy efficiency is determined by technology, physical capital, human capital, and leisure time. In addition, the education time ( $\mu$ ) is positively related to economy efficiency ( $\hat{y}$ ). However the relationship between leisure time and economic efficiency is nonlinear and indeterminate. On the one hand, the positive effect of leisure time can be easily seen from Equation (5). As leisure time ( $l$ ) increases, working time (namely,  $1 - \mu - l$ ) decreases, then  $l^{1-\alpha} / (1 - u - l)$  increases, which leads to increase of economic efficiency ( $\hat{y}$ ). On the other hand, leisure time has a substitution effect on education time and working time. As leisure time increases, work hours and education time ( $\mu$ ) will decrease accordingly, thus human capital ( $h$ ) will decrease [footnote 4], which leads to decline of economic efficiency. As a result, whether leisure time increases economic efficiency depends on which effect dominates.

### 3 EMPIRICAL IMPLEMENTATION

The data for this empirical analysis consists of a panel of 19 OECD countries [footnote 5] covering the period 1970-2000. Based on Equation (5), we know that economy efficiency is determined by physical capital, human capital, and leisure time. In addition, the leisure time has a nonlinear relationship with economic efficiency. Therefore, we specify the empirical model as,

$$\hat{y}_{it} = \beta_0 + \beta_1 k_{it} + \beta_2 u_{it} + \beta_3 l_{it} + \beta_4 l_{it}^2 + \alpha_i + \gamma_t + \varepsilon_{it} \quad (6)$$

where the intercept includes the non-time varying parameters of the technical parameter ( $A$ ) and population ( $L$ ). The term  $\alpha$  measures unobserved heterogeneity across countries (or country specific effects) and  $\gamma$  accounts for factors that uniformly affect all countries over time (or time specific effects).

The physical variable  $k$  is defined as the net fixed capital stock per capita, which is taken from the OECD General Economies Database. The education time variable  $u$  is defined as average hours of total schooling of the total population over 25 years old (i.e., the average years of total schooling times 365 and 24) divided by life expectancy of the population, where data for average years of schooling are taken from the Barro-Lee Database, and the life expectancy data are taken from the OECD Health Database. Annual data for leisure hours ( $l$ ) is obtained by subtracting average worked hours and education hours from total hours of a year. The data of annual average worked hours are taken from OECD Productivity Database.

The dependent variable  $\hat{y}$  (per capita GDP per hour) is defined as GDP per capita divided by annual averaged worked hours, where the data for GDP per capita are obtained from OECD Productivity Database.

### 4 EMPIRICAL RESULTS

In Table 1 we report four different estimation methods for Equation (6) and the preferred model is chosen based on the standard statistical tests. The Pooled OLS

assumes that there is neither significant country nor time specific effects among the panel. The F-test (Greene, 2003, p. 289) is used to compare the Pooled OLS model with the fixed effects model (FEM). If the null hypothesis is rejected, then the Pooled OLS is not appropriate for estimating the panel. In addition, the Lagrange Multiplier (LM) test (Greene, 2003, p. 293) is used to compare the random effects model (REM) and the Pooled OLS. Rejection of the null hypothesis indicates the REM is preferred to the Pooled OLS. To choose the FEM model or the REM model depends on assumption that the country and/or year specific effects ( $\alpha$  and/or  $\gamma$ ) are correlated with the explanatory variables. The FEM estimates are unbiased whether or not they are correlated with the explanatory variables. However the REM estimates are biased if they are correlated. Therefore, the Hausman's specification test, or  $m$ -statistics, can be used to test the assumption.

The pooled OLS (column 1) shows that all explanatory variables are found to have positive, but statistically insignificant (except the physical capital variable) impact on economic efficiency. However the F-test statistic (22.84) for fixed effects and LM test statistic (312.05) for random effect, both of which are much larger than the corresponding critical values present strong evidence that the Pooled OLS is inappropriate for those data. Meanwhile, the Hausman test used to compare the FEM and REM models rejects the null hypothesis that country and time specific effects are uncorrelated with regressors at the 5% significant level, suggesting a model with country and year effects, i.e., FEM is preferred.

Based on the FEM results (column 2) reported in Table 1, physical capital exhibits positive, statistically significant effect on economy efficiency. The coefficient estimate on education variable is positive but statistically insignificant. Compared to the Pooled OLS, the magnitude and the signs of these two variables in the FEM are consistent with those in the Pooled OLS. However, the leisure variable is found to be negative, statistically significant in the FEM, and the quadratic form of leisure variable is found to be positive and significant.

**Table 1. The Dependent Variable is GDP per capita per work hour**

	Pooled OLS	FEM	REM	FGLS
Constant	-73.0338331 (0.40)	750.8941136** (3.62)	578.0900869** (3.07)	336.5999032** (10.71)
K	0.0002637** (8.58)	0.0001779* (2.13)	0.0003159** (6.99)	0.0003724** (55.07)
U	0.0001234 (0.17)	0.0001064 (0.18)	0.0000927 (0.15)	0.0000087 (0.59)
L	0.0021639 (0.04)	-0.2495260** (4.21)	-0.1932106** (3.58)	-0.1040453** (11.43)
l2	0.0000013 (0.36)	0.0000205** (4.83)	0.0000160** (4.12)	0.0000257** (12.18)
R-squared	0.47	0.66	(NA)	(NA)
F test statistic = 22.84 [2.39]				
LM test statistic = 312.05 [3.84]				
Hausman test $m$ statistics = 61.26 [9.49]				
LR test statistic for heteroscedasticity = 163.04 [28.87]				
Wooldridge test statistic for autocorrelation = 136.17 [4.41]				

Note: (i) \*\* (\*) denotes significant at 1% (5%) level; (ii) t statistics are in parentheses; (iii) corresponding critical values are in brackets; (iv) NA stands for not applicable.

However, the estimates reported in Table 1 by using the FEM approach can be misleading as problems of heteroscedasticity across countries and autocorrelation within countries may plague the FEM estimates. As Baltagi (2005, p. 68) argues, in the presence of an AR (1) error structure within countries and heteroscedasticity across countries, the standard formulae to calculate the Hausman test statistic are invalid. As a result, a more efficient estimation procedure, called the feasible generalized least squares (FGLS) than the pooled OLS and FEM approach can then be used to estimate the model which allows corrections for heteroscedasticity and cross-sectional and serial correlation.

To test for heteroscedasticity, the likelihood ratio (LR) test is employed by specifying *hetero* in command *xtgls* in the STATA software (STATA Corp., 2005), which uses iterated Generalized Least Squares (GLS) to estimate the model with heteroscedasticity. Pertaining to the autocorrelation test, Wooldridge (2002, p 282-283) presented a test for autocorrelation in panel-data models which later was advanced by Drukker (2003) in his simulation study. Drukker found that the test has good size and power properties in reasonable sized samples. His written program is served in this paper for autocorrelation test purpose.

The Likelihood Ratio test (LR test) statistic (163.04) and the Wooldridge-type diagnostic test statistic (136.17) reveal that both heteroscedasticity and autocorrelation appear in the panel, Column 4 in Table 1 thus shows the results of the FGLS method of Parks-Kmenta type (Parks, 1967; Kmenta, 1986) which allows for within-country and between-country correlation, and groupwise (country-level) heteroscedasticity. The Hausman test to compare FGLS and FEM (not shown in Table 1) supports the view that the FGLS is preferred to FEM in this empirical study. By using the FGLS method, physical capital shows positive, statistically significant effect on economy efficiency, the size of the coefficient is twice larger than that in the FEM model. Similarly to the FEM model, the education variable is found to be positive but statistically insignificant and the leisure variable is found to be negative and statistically significant at 1% level, even though the size of the coefficient (-0.1040453) is only half of that (-0.249526) in the FEM model. The quadratic leisure variable in the FGLS model is positive and statistically significant at 1% level with a size (0.0000257) close to that (0.0000205) in the FEM model.

The sample data in this study shows that the leisure time exhibits a strong rising trend in the 19 OECD countries from averaged 5797 hours in year 1970 to 6074 hours in 2000. Based on the results of the FGLS method, we are able to calculate the value of leisure time that results in the minimum of economy efficiency, which is found to be 6026 (approximately corresponding to the year 1990). This implies that before 1990, leisure time plays a negative role in economic efficiency. Since then leisure turned out to enhance economic efficiency[footnote 6].

## 5 CONCLUSIONS

Economists most time, if not all, derive production efficiency from activities engaged in during the working time, instead of the leisure time. Sociologists, on the other hand argue that the leisure time has a dual role in the production process in that it not only acts as a substitute to working time but can also improve production

efficiency through its effects on affecting individuals' self-development. Therefore, we extended the classical endogenous growth model which allows for the dual role of leisure. This article proposes a panel analysis of leisure and economy efficiency using the empirical data from nineteen OECD countries during 1970-2000. The paper finds that: leisure time is nonlinearly associated with economic efficiency, which is defined as GDP per capita per work hour. The leisure time which, despite playing a negative role in economic efficiency at the beginning, turns out to enhance economic efficiency as economy development proceeds.

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## FOOTNOTES

- 1 If taking human capital as endogenous variable (Lucas, 1988), we can get an endogenous accumulating path of human capital. Such treatment does not affect the main conclusion about optimal path of economic efficiency in our study, for simplification, we did not pursue the issue here.
- 2 Throughout the whole article, the capital letters denote total amount, and the lower-case letter denote per-capita amount, unless otherwise specified.
- 3  $1-\alpha$  is the technology elasticity of leisure time. Leisure time shows a decreasing marginal return to the technological level, i.e.,  $0 < 1-\alpha < 1$ . However there are two situations that  $1-\alpha < 0$ . First, if leisure time has not been constructively employed (i.e. sharp increases in such leisure activities as crime, drug use and illegal sex activities) they will inhibit the formation of new knowledge and creativity (Fogel, 2000). Second, when the income of low-income countries' laborers increases, the substitute effects of leisure time may offset the positive effect of "learning by leisure". In these two cases, we will see  $1-\alpha < 0$ .
- 4 Recall in equation (3b) that human capital is an exponential function of leisure and education time.
- 5 These countries are Australia, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Netherlands, New Zealand, Portugal, Spain, Sweden, U.K, and U.S.A. The rest OECD countries are excluded from the sample due to the data availability
- 6 One may argue that the upward U-shape curve of the leisure time and economy efficiency is fragile because of our model seems indicating that as people reached its leisure time to maximum (or people do not work at all, the economy efficiency rises to the highest. We argue that based on Equation (5), leisure time has a nonlinear relationship with economic efficiency. In conducting a simulation analysis based on Equation (5), we found that when leisure rises to some level higher than that in year 2000, the upward U-curve becomes downward. Hence it seems to us that the leisure time and economy efficiency is "S-shaped" (or cubic type), our empirical model only captures the upward part of the S-shaped curve.

## The Relationship of Work-Family Balance and Work-Family Conflict and Enrichment

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Helping workers balance their work and family lives is increasingly viewed as a business and social imperative in nowadays. Successfully combining work and family is the major challenge for current generation of workers. Work-family balance (WFB) has become a very popular research topic recently, and many researchers have tried to do some empirical research on this topic in recent years. However, most of the existing literature on WFB focused on the discussion about the definition of WFB. Little research explored the relationship among work-family conflict (WFC), work-family enrichment (WFE) and WFB in one study. The present study provides us a new perspective to consider the relationship among WFC, WFE and WFB, and try to explore the role of WFB played in the process of WFC, WFE influencing individual's life satisfaction. Specifically, we predict that WFC, WFC and WFB have different structures, and WFC, WFE are the antecedents of WFB, WFB will positively relate to life satisfaction, and WFB mediates the relationship between WFC, WFE and life satisfaction.

One structured questionnaire was employed as the research instrument for this study. Among the major measures, the 15-items WFC was adopted from Lu(2005), WFE was measured via 14 items that was adopted from Tang (2008), the seven item WFB scale was adopted from Grzywacz & Carlson (2007), a five item general life satisfaction scale was adopted from Diener (1998). Results show that the Cronbach's alpha coefficients for these above measures were from .83 to .94. SEM was utilized to examine the proposed hypothesis.

In line with predictions, results of SEM demonstrate that WFB has its own structure, and the results also showed that WFC negatively related to WFB, WFE positively related to WFB, and WFB positively related to life satisfaction. Specifically, the negative effect of WFC on individual's life satisfaction was partially mediated by WFB.

The present study extends our understanding of work-family interface and the relationships among WFC, WFE and WFB. And this study also provides a foundation for HRD professionals to begin creating strategies that contribute to organizational goals by helping workers achieve work-family balance.

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## Study on the Flexible Manufacturing of Continuous Process Enterprises with Large Scale and Multiple Products<sup>73</sup>

—A Study based on the Case from Jiahua Enterprise

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### ABSTRACT

Compared with modularized enterprises, continuous Process (CP) enterprises exhibit differing characteristics in manufacturing flexibility. Relative to the vast literature on the flexibility of modularized enterprises, the manufacturing flexibility of CP enterprises has aroused little attention in current literature. In this paper, we develop a new theory to give a reasonable explanation for the flexible manufacturing problem of CP enterprises with multiple products. Based on the analysis of flexible manufacturing process of Jiahua enterprise, we find that CP enterprises can create product diversity through component flexibility, control flexibility and mixed flexibility. The discussion on the “Alternate Body”, arising from the product production transformation process of CP enterprises, further reveals the possibility of cost reduction in production transformation and thus efficiency enhancement of manufacturing flexibility. The cost-efficient flexibility of CP enterprises is realized by properly scheduling the production process, shortening the continuous transforming time of the “Alternate Body” and reverse development of the “Alternate Body”, with exploiting the characteristics of compatibility, continuity and reversibility of the “Alternate Body”. Finally, we conclude that the study on the manufacturing flexibility of CP enterprises will contribute to the flexible production transformation in the industries with CP.

Key Words: Continuous process; Flexible manufacturing; Alternate Body; Case study

### 1 INTRODUCTION

The keep-going high price motivates more consideration on energy-saving in the cement industry. Besides developing precalcining kiln technology, utilizing industrial waste heat and using frequency conversation technology largely, the production scale of a single cement production line has been expanded rapidly. In 2000, the average production capacity of a single production line of Chinese cement industry was 85,200 tons clinker per year, the average coal consumption of one ton clinker was 156.35kg standard coal, there were only 11 precalcining kiln production lines whose daily production capacity were above 4,000 tons and there was not a single production line with 10,000 tons daily production capacity. Whereas in 2010 the average production capacity of a single production line reached 1 million tons clinker per year, the average coal consumption of one ton clinker was 115kg standard coal, there were 860 precalcining kiln production lines whose daily production capacity were above 4,000 tons and there were 7 precalcining kiln production lines with 10,000 tons daily production capacity<sup>74</sup>. This development phenomenon can also be observed from the industries such as glass industry, metallurgy industry, chemical industry, oil refining

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<sup>74</sup>Source: “Digital Cement Net” of China Cement Association

industry and so on..

The rapid expansion of the production scale created chances for cement enterprises to reduce energy consumption and made large production lines win cost advantage over small ones. Under the condition of serious overcapacity, the continuous low cement price forced many small common cement enterprises to close their small cement kilns.

It's obvious that the small cement clinker production line is getting more and more uncompetitive on cost. For the special cement production enterprises, they are facing a new challenge, which is how to revolute under the condition of cost pressure and how to keep the former production mode of multiple small production lines with single product in a single production line in such difficult situation. Under the condition of limited order for a single product, expanding the production scale of a single production line means the needs to change the production mode, that is to say the cement enterprise will certainly produce multiple cement clinker products in a single large production line, which is the focus issue of our research.

The production process of cement clinker is a continuous manufacturing process, which is apparently different from the modular production we normally understand. In a continuous production industry, what push flexible manufacturing of multiple products and whether there exist other flexible strategies which differ from the modular production. As the current theoretical models pay less attention to CP enterprise, we discuss and analyze the case of flexible manufacturing of Jiahua enterprise which is the largest special cement production enterprise of China and try to develop a new theoretical model which can describe and explain the multiple products flexible manufacturing of CP enterprise.

The paper contains four parts. The first part is introduction. The second part review related theoretical research, such as mass customization, flexible manufacturing and modularity theory. The third part is specific case analysis and discovery. And the forth part establishes conceptual frameworks for the multiple products flexible manufacturing of CP enterprise based on the case study. Finally, the fifth party is the discussion and conclusion of the paper, which points out the meaning of the research and scope of application, illustrates the further research directions.

## **2 RELATED RESEARCH**

### **2.1 Mass customization, flexible manufacturing and modularity**

Mass customization (MC) is a production method coming from the diversity of customer demand and development of information technology in 1990s. Joseph Pine systematically studied MC earlier, who thought that the core of MC is the diversity of product types and sharp increase of customization requirements without increasing cost, and the scope is the large scale production of personalized customization products and services and the largest advantage is providing strategic advantage and economic values (Pine, 1992). Actually MC provides two new insights for us. One is the ability to provide every customization product on the position of customers at the time, place and in a mode customers anticipate. The other one is producing multiple products rapidly with the cost of large scale production through flexible organization, equipments and processes on the position of enterprise (Hart, 1995).

The multiple and customized product put forward higher requirements for the product producing ability of the enterprise. The traditional rigid production line is

specially designed for a single product, which can't satisfy the manufacturing requirement of multiplication and customization. MC requires enterprise to have flexible product producing ability. It mainly constructs and promotes the flexible product producing ability of the enterprise through flexible manufacturing system (FMS), effective integration of networked manufacture and flexible management of the enterprise (Dai & Guo, 2006). The functions of FMS are mainly embodied on the two aspects: one is from the flexibility in the product manufacturing process, the other is the flexibility that influences and determines the production (Sethi & Sethi, 1990).

The promotion of the enterprise's flexible manufacturing level should be realized by low cost, which is the key for the enterprise to run in MC mode. The best way to realize MC is to establish a modularity component which can configure multiple products and services with the lowest cost and highest individuation level (Pine, 1992).

Masahi ko Aoki (2003) promotes the definition of the module based on studying the definitions of many modules, who thought that the module is a semi-self-discipline subsystem that can consist of systematic and specific independent function. The modules interconnect by certain rules through standard surface structure and other functional semi-self-discipline subsystems to construct a more complicated system or process. The modules should have the following characteristics: A. independence: that means the module can be designed individually, innovated freely and the design concept will not be influenced by other subsystems. B. relation: that means all modules follow common design rules which should have stable external interfaces and the modules with the same external interface can be interchanged. C. structural function: that means the modules can not exist and work alone , they need to connect with each other to establish a more complicated system.

Modularity production has apparent function on reducing cost (Gu & Qi, 2001) because modularity design is to produce large quantity products by composing limited universal modules and standard modules ,whereas universal modules and standard modules can realize the production in large scale and low cost (Zhang, 2010). Therefore, the production problem of customized products is transformed or partly transformed into the mass production problem, which helps enterprise to produce the product of any quantity for a single customer or small scale and multiple products market with the cost and speed of large scale production (Anderson & Pine, 1997).

Similarly, the flexibility of the enterprise represents the adaptability for the enterprise to the external changes, and the strategy established on the modularity basis is the best way to deal with changes (Baldwin & Clark, 1997). Baldwin and Clark (2000) furthermore studied the ways to create diversified products by modularity design. They promoted that six simple instruction characteristics which are splitting, substituting, augmenting, excluding, inverting and porting can realize the diversity of product design.

## **2.2 Continuous Process**

Continuous Process (CP) is a process that the raw materials are put into a station and run through the assembly line in a certain order until the finished products are produced in the end. The technology process of CP is sequent and the physical structure of the product of CP is inseparable. The production process is put in use in some industries, such as metal-refractory industry, paper-making industry and chemical industry all belong to CP (Wang, 2011).

Under the condition of a certain technology process control, as the process of CP from input of the material and output of the product is continual, which involves many kinds of transforming process such as separation, decomposition, recombination and composition of material, the mode of CP is a non-modularity production mode.

It can be concluded following discrepancy between CP and modularity process. First, in CP the production line for the material's input and output is a complete system, the termination of any link in the production chain will block the system and influence the quality and quantity of the output product, whereas the production line system of modularity process is separable and combined. Second, the materials of CP will experience a serious of process of separation, decomposition or combination under the control of a certain technology process, which is difficult to be separated to independent subsystems, whereas modular enterprises actually combine each independent module to form a more complicated system in a certain structural way. Third, in CP, the production transformation of multiple products in a single production line is arranged in time order and can't be parallel to the modular enterprises to implement the production.

As the current theoretical models mainly study the MC and flexible manufacturing problem based on modularity process enterprises, which is difficult to explain and illustrate some key strategies of flexible manufacturing of the production enterprise. In this essay we try to develop a new theoretical model to explain the multiple products flexible manufacturing of CP enterprise, which is different from that of modularity process enterprises.

### **3 AN INVESTIGATION ON THE FLEXIBLE MANUFACTURING WITH MULTIPLE PRODUCTS**

#### **3.1 Settings**

Jiahua enterprise is one of the largest special cement enterprises of China at present and one of the fastest-growing special cement enterprises in recent years. At present Jiahua enterprise owns five factories (See table 1) which are separately located in Leshan City, Emeishan City, Pengzhou City, Mianning County of Liangshan City and Pingshan County of Shijiazhuang City. As the differences of product types and factory locations and each factory has its independent customer group, except the factory in Mianning County of Liangshan State has two 2500T/D precalcining kiln production lines, other factories only have one production line and each production line should produce multiple products according to the personalized requirement of customer. And the actual situation is the second production line of the factory in Mianning County of Liangshan State is now in the process of debug and pilot run, so the factory is actually mainly running in single production line.

Table 1 The distribution chart of sub-factories of Jiahua enterprise

<b>Name of factory</b>	<b>Scale of production line</b>	<b>Location</b>	<b>Production type</b>	<b>Note</b>
Leshan Jiahua Cement Factory	One 1,800T/D precalcining kiln production line	Jianong Town, Shawan District, Leshan City, Sichuan Province	All kinds of hydraulic engineering and oil well cement and related customer-specific products of the above cement system	

Emeishan Qianghua Special Cement Company of Limited Liability	One 500T/D precalcining kiln production line	Longchi Town, Emeishan City, Sichuan Province	All kinds of decoration and thermo technical cement and related customer-specific products of the above cement system	
Chengdu Jiahua Special Engineering Material Company of Limited Liability	One 1,200T/D precalcining kiln production line	Xiaoyudong Town, Pengzhou, Chengdu City, Sichuan Province	All kinds of oil well and road cement and related customer-specific products of the above cement system	
Sichuan Jiahua Jinping Special cement Company of Limited Liability	Two 2,500T/D precalcining kiln production lines	Lugu Town, Mianning County of Liangshan State, Sichuan Province	All kinds of hydraulic engineering and road cement and related customer-specific products of the above cement system	The second production line was started production in April 2012 and is now in the process of debug and pilot run
Shijiazhuang Jiahua Special Engineering Material Company of Limited Liability	One 1,000T/D precalcining kiln production line	Pingshan Town, Pingshan County, Shijiazhuang City, Hebei Province	All kinds of oil well cement and related customer-specific products of the above cement system	

Source: Inside information of Jiahua enterprise

The production process of cement clinker mainly depends on industrial long kiln and calciner. The characteristic of CP from the raw material input and the cement clinker output is typical. Generally speaking, the common cement enterprises only produce standard common Portland cement clinker, so there is not the problem of multiple products production in a single production line during the calcining process. However, special cement enterprises are exceptions as the production line should satisfy the requirement of flexible manufacturing for different kinds of clinker of different kinds of special cement in a single production line. Therefore, it can be observed the flexible manufacturing process and characteristic of CP enterprise from Jiahua enterprise.

The early special cement businesses of Jiahua enterprise mainly focused on the production of oil well cement. As the scale of the production line was small and the main production line was a 50,000 tons/year vertical cylinder preheater kiln, the factory usually produced in the way of single product in a single production line. In 2000 the cost of coal only counted to 17% of the cement clinker cost, while the price of coal had been grown higher and higher after 2003 and in 2006 the cost of coal counted to 40% of the cement clinker cost. As the energy consumption of small vertical cylinder preheater was too much and competitiveness pressure, in April 2008

Jiahua enterprise changed the vertical cylinder preheater kiln of Emeishan Qianghua Special Cement Company of Limited Liability to be new dry process precalcining kiln, of which the production capacity was 200,000 tons cement clinker per year. It was the first precalcining kiln production line of the enterprise.

Except improving the production capacity, the development of hydraulic engineering market of Jiahua enterprise promoted the requirement of producing multiple products in the same production line of Emeishan Qianghua Company. At the same time, Jiahua enterprise got the order of the special cement for dam impervious wall from China Guodian Dadu River Hydropower Development Co., Ltd. Pubugou Hydropower Station and moderate heat Portland cement from Sinohydro Corporation Shawan Hydropower Station. Plus the original class G oil well cement, Emeishan Qianghua Company tried to produce three kinds of products in the same production line and made preliminary success.

In May 2009, a new 2,000T/D (600,000 tons clinker per year) new dry process precalcining kiln production line in Shawan District established by Jiahua enterprise was put into production. In July 2009, Jiahua enterprise acquired Jinping Special Cement Company in Mianning County Liangshan State which had a 2,500T/D (775,000 tons clinker per year) new dry process precalcining kiln production line at that time and the second 2,500T/D new dry process precalcining kiln production line was completed in 2012. After that, Jiahua enterprise owned two factories in Pengzhou City, Sichuan Province and Pingshan County, Shijiazhuang City, Hebei Province by technology reformation and acquisition. At the same time, the enterprise phased out all small cement kiln production lines and replaced with precalcining kiln production line so that the scale of production line of Jiahua enterprise improved to a new level.

In recent years the enterprise's business has been extended to the areas such as decoration, nuclear engineering, marine engineering and transportation from oil well industry and hydraulic engineering industry. In December 2009, the general manager of the enterprise clearly pointed out in the annual work report that Jiahua enterprise would be positioned on "the manufacturer of cement-based functional material and supplier of application solutions". In order to adapt to the enterprise's development strategy, the enterprise is also trying to construct a kind of large scale flexible manufacturing mode which can rapidly respond to customer's requirement in manufacturing process.

As a strategic consideration, the enterprise must push flexible manufacturing mode to the systematic production mode. From that time all five factories of the enterprise began to carry out manufacturing flexibility production.

### **3.2 CP in the special cement production**

All special cement production lines of Jiahua enterprise use new dry process precalcining process. Usually the special cement is produced by grinding special cement clinker and each kind of special cement has unique corresponding relationship with its clinker. For the convenience of study, the essay only takes the production process of clinker as the process of CP to discuss the case.

The production process of special cement mainly includes all the CP from prepare raw meal burden to calcine at high temperature in kiln until the clinker output, such as preheating, decomposition, calcine, cooling and output process, all of which are integrated controlled by central control system. The burden of raw meal is mainly carried out according to the difference of the product type of special cement. If the



product belongs to Portland series, the raw meals are mainly limestone and all kinds of siliceous material, ferruginous material or aluminous calibration material. If the product doesn't belong to Portland series, it needs to add other materials such as sulfide, phosphide or fluoride into limestone and bauxite to form the cement minerals such as aluminates, sulpho-aluminates, phosapholuminates or fluoroaluminates. The control methods of technology process mainly includes the control of preheater, calciner, kiln system (the head, middle part and end of the kiln), the temperature of cooling machine; the air volume, air speed and pressure of the pipes connecting equipment system; the rotary speed and flow rate and speed of the material of rotary kiln system; the place, pressure and coal's flow speed of kiln head; the appearance of the flame in kiln head and so on.

Take the production process of Portland series special cement clinker for example, after the raw meal goes into the kiln, firstly the preheater will heat the raw meal by the waste heat of the waste gas exhausted from rotary kiln and calciner to preheat the raw meal and decompose a part of carbonates; secondly the calciner will decompose the preheated material rapidly at suspended status or fluidized status to make the decomposition rate of raw meal above 90%; thirdly the rotary kiln will calcine the pre-decomposed material to make carbonates decompose more quickly and perform a series of solid status reactions to form the minerals such as  $C_2S$ ,  $C_3A$  and  $C_4AF$  in cement clinker. With the temperature of the material increases to approach  $1300^{\circ}C$ , the minerals such as  $C_2S$ ,  $C_3A$  and  $C_4AF$  will become liquid status. At this time  $C_2S$  dissolved in the liquid status will react with  $CaO$  to form a large number of  $C_3S$ . After the clinker is sintered, the cooler of cement clinker will cool the high temperature from rotary kiln and then transform to the clinker storehouse.

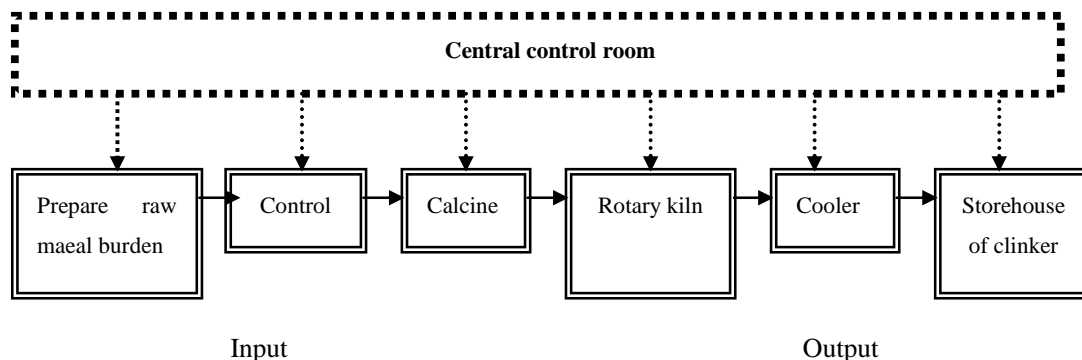


Figure 1 The technology process of special cement clinker production

It can be seen from the above technical process (**Figure 1**) that the production of special cement clinker is finished in the precalcining system. The precalcining kiln is a continuous production system composed by preheater, calciner, and rotary kiln and cooler, which is a closed system. The raw meal experiences a uniform motion process inside the kiln system from being input to output of the kiln, during which time the material experiences a series of physical and chemical reactions inside the system by the large number of energy changes between materials and finally form clinker product.

Central control room is a product by combining calcining technology and computer integration technology, which is established on the basis of the information change between kiln system and outside operators. Usually a complete clinker production line will have 3,000-5,000 data collection points, which will be reflected on the computer screen in central control room after been integrated and analyzed and

according to the analysis result of the data the operators in central control room can prejudge the running status of the kiln system and instruct adjusting the method and parameters of process technology control so as to control the system.

### 3.3 Adjustment on Components of Raw Material and Control Methods

The manufacturing flexibility of multiple special cement products of Jiahua enterprise is realized by adjusting components of raw material and changing the control methods of clinker calcinations process. Table 2 listed the components of raw material and the finished clinker of six different kinds of special cement products. The variability of components lead to the variety of products.

Table 2: The components of a part of special cement products of Jiahua enterprise

Product	Raw meal						Product	Clinker							
	Low alkali	Class G	Supho-resi	Ordinary	High	High		Low alkali	Class G	Supho-resi	Ordinary	High	High		
Ratio%	Lim estone	82.90	82.20	81.20	79.50	69.00	72.20	Mineral composition	C <sub>3</sub> S	61.42	62.16	49.06	33.81	29.56	50.93
	Shale					12.00	11.50		C <sub>2</sub> S	14.06	15.95	28.81	45.07	44.18	25.03
	Cop slag		6.50	6.50	6.50	6.00	6.30		C <sub>3</sub> A	9.12	1.11	1.34	1.26	2.09	1.60
	Dolomite					11.00	10.00		C <sub>4</sub> AF	10.64	16.29	16.26	16.02	16.39	15.66
	Red sand	9.90	11.30	12.30	14.00				Los	\	\	\	\	\	\
	Aluminum tail	7.20				2.00			SiO <sub>2</sub>	20.95	21.80	22.86	24.54	23.12	22.03
Composition	Loss	34.53	33.33	32.96	32.37	33.34	33.95	Al <sub>2</sub> O <sub>3</sub>	5.68	3.85	3.93	3.85	4.24	3.90	
	SiO <sub>2</sub>	12.71	13.55	14.37	15.89	14.68	13.59	Fe <sub>2</sub> O <sub>3</sub>	3.50	5.36	5.35	5.27	5.39	5.15	
	Al <sub>2</sub> O <sub>3</sub>	2.97	1.76	1.83	1.97	2.20	1.78	CaO	64.82	64.22	63.11	62.34	59.33	61.90	
	Fe <sub>2</sub> O <sub>3</sub>	2.16	3.49	3.51	3.50	3.53	3.32	MgO	1.31	1.59	1.58	1.55	4.75	4.46	
	CaO	44.31	44.67	44.14	43.59	40.88	42.66	KH	0.924	0.917	0.855	0.788	0.779	0.807	
	MgO	0.85	1.06	1.06	1.05	3.24	3.03	N	2.28	2.37	2.46	2.69	2.40	2.43	
Value	KH	1.086	1.069	0.991	0.879	0.876	1.013	P	1.63	0.72	0.73	0.73	0.79	0.76	
	N	2.48	2.58	2.69	2.90	2.56	2.66								
	P	1.38	0.5	0.52	0.56	0.62	0.54								

Source: Inside information of Jiahua enterprise

Table 3 shows the adjustment of parameter of technology process control promotes the product variety under the condition without changing raw material constituents.

Table 3: The adjustment of method and parameter of process technology control changes the performances of a part of products

<b>Product</b>	<b>Standard</b>	<b>The adjustment of method and parameter of process technology control</b>	<b>Purpose</b>	<b>Note</b>
Sulpho-aluminate cement (type A)	GB 20472-2006	Calcine clinker at normal temperature	Satisfy the requirement of standard	Standard product
Sulpho-aluminate cement (type B)		Light burn clinker appropriately	Besides satisfying the requirement of standard, it increases the content of f-CaO to shorten setting time so that the color of clinker gets lighter. It's suitable for European style decoration.	Customized product
Sulpho-aluminate cement (type C)		Over burn clinker appropriately	Besides satisfying the requirement of standard, it reduces the content of f-CaO to lengthen setting time so that the color of clinker gets darker. It's suitable for European engineering grouting.	Customized product
High magnesium and moderate heat Portland cement (type A)	GB 200-2003	Calcine thick clinker at slow rotary speed	Besides satisfying the requirement of standard, it increases early stage hydrated expansion and compensates the concrete shrinkage.	Customized product
High magnesium and moderate heat Portland cement (type B)		Calcine thin clinker at fast rotary speed	Besides satisfying the requirement of standard, it improves MgO activity to increase early stage hydrated	Customized product

			expansion furthermore and compensate the concrete shrinkage. It's suitable for arch dam.	
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Source: Inside information of Jiahua enterprise

Table 4 listed the method and parameter of process technology control of six kinds of special cement products. The changes of method and parameter of process technology control lead to the variety of products.

Table 4: The process technology control parameters of a part of special cement products of Jiahua

Product \ Item	Production per machine (ton)	Primary air (Pa)	Secondary air (Pa)	Tertiary air (Pa)	Temperature of calciner (°C)
Low alkali common use cement	68	25,000	5,200	120	870
Class G oil well cement	68	25,000	5,300	120	870
High magnesium and moderate heat cement	68	27,000	5,300	140	880
High magnesium and low heat cement	70	28,000	5,400	150	890
Ordinary low heat cement	69	27,000	5,300	140	880
Sulfate resistance cement	69	25,000	5,200	130	870

Source: Inside information of Jiahua enterprise

### 3.4 Flexible Production Exploration

#### (1) Development of product sequencing technology

In the practices of product conversions, the technicians of Jiahua enterprise found that the conversions between some kinds of products would be very smooth, while some other kinds of products would be very difficult, even suspended the production as kiln system breakdown during product conversions.

In earlier practices Emeishan Qianghua company produced class G oil well cement and moderate heat Portland cement in the same calcining kiln production line. The factory made success at one time when converting class G oil well cement production to moderate Portland cement production with one time material input, which was because the similarity of the components of two products was very high and the compatibility of “**alternate body**” was great.

There were also failure cases when the enterprise practiced flexible production. In October 2008, the enterprise closed an ordinary kiln which was used to produce sulpho-aluminate cement. In order to keep customers, Qianghua factory tried to convert to produce sulpho-aluminate cement from producing class G oil well cement and moderate heat Portland cement. As the components of class G oil well cement are

high ferric and low aluminium, while the components of sulpho-aluminate cement are high sulfate, high aluminium and low ferric, they are extremely hard to compatible. During the conversions the rotary kiln broke down as the blocked materials in the kiln. The factory spent total five days to clear out the blocked materials and then put into production again. Similarly, during the conversions from sulpho-aluminate cement to class G oil well cement the same broke down happened again and the factory had to stop production, clear out blocked materials and put into production again. Therefore, it can be seen that not all cement products are suitable for the CP in the same production line.

As the pressure of finishing orders, Leshan Jiahua cement factory needs to product 6 kinds of products every month and in peak period the factory will convert production as high as 13 times. After a period of experiences, Leshan Jiahua cement factory found out the regulars of sequencing production conversions, which is similar to the allelopathy theory. For example, the effect of converting class G oil well cement production to low heat Portland cement product would be very poor, while the effect of converting class G oil well cement production to highly sulfate resistance cement first and then to low heat Portland cement would be great. This regular has been applied to other factories of the enterprise too.

Below is the product sequencing chart of Leshan Jiahua factory.

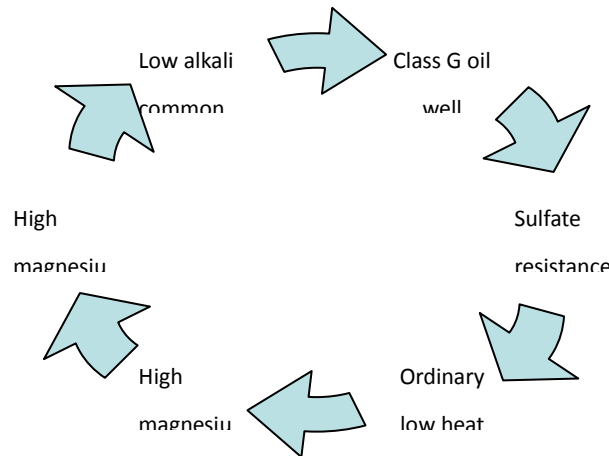


Figure 2: Product sequencing chart of a part of special cement

The factory illustrates the following sequence:

- A. The KH of low alkali common cement and class G clinker is the same and the control indexes of  $Fe_2O_3$  and  $Al_2O_3$  are different. It just needs to adjust the control indexes of  $Fe_2O_3$ 、 $Al_2O_3$ .
- B. The control indexes of  $Fe_2O_3$  and  $Al_2O_3$  of sulpho-resistant clinker and class G clinker are the same and KH of sulpho-resistant clinker is lower than that of class G clinker. It just needs to adjust KH.
- C. The control indexes of  $Fe_2O_3$  and  $Al_2O_3$  of sulpho-resistant clinker and low heat clinker are the same and KH of low heat clinker is lower than that of sulpho-resistant clinker. It just needs to adjust KH.
- D. The control indexes of KH,  $Fe_2O_3$  and  $Al_2O_3$  of common low heat clinker and high magnesium low heat clinker are the same. It just needs to adjust the content of MgO and alkali.
- E. The control indexes of  $Fe_2O_3$ ,  $Al_2O_3$ , MgO and alkali content of high magnesium moderate heat clinker and high magnesium low heat clinker are the same and KH of high magnesium moderate heat clinker is higher than that of high magnesium low heat clinker. It just needs to adjust KH.

According to illustrations above and the data of table 2, we find that the smaller the adjustment range of product components is, the easier the product production conversion is.

## **(2) Improvement of product conversion control technology**

The larger the adjustment range of product components, the product production conversion will be the harder. It's noticed that it needs to solidify the control parameters and operation methods to a continuous process in order to push the production conversion more smoothly and stably.

Emeishan Qianghua Company experienced a lot of difficulties when converting production of class G oil well cement to special cement for dam impervious wall. The cement is a kind of innovated product from low heat Portland cement and developed jointly by Yangtzi River Commission, owners and Jiahua enterprise. Besides there are obvious differences on the components compared with that of moderate heat Portland cement and class G oil well cement, the calcining temperature is 70°C lower than that of moderate Portland cement, so the factory didn't produce qualified products for two days after production conversion and got the qualified products in the third day, but the production cost was high, and a lot of alternate materials were wasted.

In the second half year of 2010, Jiahua Jinping Company in Liangshan State always complained that the customized slight expansion moderate heat Portland cement offered to Ertan Hydroelectric Development Corporation Jinping Power Station and Guandi Power Station cost too much as the selection rate of slight expansion moderate heat Portland cement was too low resulting too much wasted alternate materials. In order to solve the selection rate problem, Jiahua enterprise organized related technicians to analyze and found out that the light burning was the main reason for the problem as the variation value of burned temperature was too big, the rotary speed of kiln was faster and the weight per liter of clinker was lower. Finally, Jiahua Jinping Company improved the selection rate of slight expansion moderate heat Portland cement to above 95% just by adjusting a parameter in temperature area of the kiln.

After that Jiahua enterprise carried out a production promotion program, which was led by Engineering Centre. The program systematically summarizes and certifies the operation rules and control parameters of each factory and promoted the time table of modifying and perfecting the flexible manufacturing technology process quality manual and operation rules. In December 2010, all factories of the enterprise finished the modification work of manuals and rules.

## **(3) Reverse development on “alternate body”**

Frequent production conversion will absolutely influence the control of cost, among which the alternate wasted materials is a key factor that influence the cost of multiple products production.

Initially the way to recycle and reuse “alternate body” is mainly using it as the mixed materials for common cement 32.5. But as the price of common cement is too low, the way can't save too much cost.

Therefore, Jiahua enterprise had been always exploring the better utilization method for “alternate body”. Leshan Jiahua Cement Factory took the lead in getting

that. On one hand, the factory tried to reduce the “alternate body” and improve the selection rate of qualified products in production conversion. On the other hand, the factory developed “alternate body” and special cement by adding “alternate body” into the high components special cement which has complementary relation with it or developing “alternate body” as the base material of functional mortar of Jiahua enterprise according to the components of “alternate body” so as to further improve the value of “alternate body”.

Now the ways Jiahua Cement Factory took have been popularized in the whole enterprise and all factories begin to compare the main economic technology of them with the common cement companies that produce common cement in mass production so as to reduce the production conversion cost to inconspicuous level.

The reverse development technology of “alternate body” brings value for “alternate body” which would be wasted materials, which actually is a kind of reverse product development technology conforming to utilization of industrial wasted resources.

## 4 DISCUSSION

### 4.1 Flexible Manufacturing Model in CP enterprises

By quoting the classification view of economic system, we can view that CP is a closed system, by contrast, modularity process is an open system. The closed system will not have physical interaction with the external world but have energy and information interaction, whereas the open system will not only have energy and information interaction, but also have physical interaction (Zan Ting-quan, 2003).

Therefore, as shown in figure 2, CP can be illustrated as a process of input and output. In the process of raw material input and output, the system is closed and only has energy and information interaction.

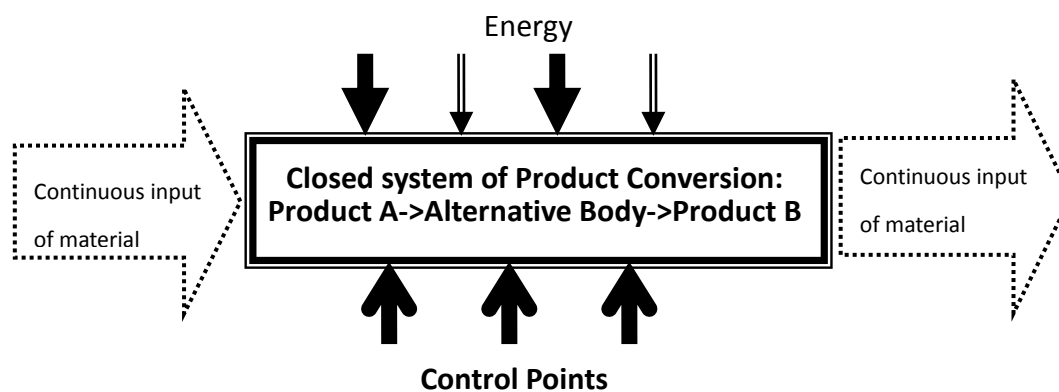


Figure 2: Continuous Process of Flexible Manufacturing

In CP, the materials will have a series of physical and chemical reactions such as separation, decomposition, recombination and composition and finally product under the function of certain energy. The energy functions as a result of the combination of some kind of technology process control method and technology process control parameters, such as the increase or reduction of temperature, increase or reduction of pressure, increase or reduction of air volume, acceleration or deceleration of wind velocity and the transforming mechanical driving force and movement velocity of the material in the internal of the system. As the energy will function on the basis of consuming energy, it can explain why the energy cost in CP will have great influence

on the competitiveness of enterprises.

Having entered the closed system, the material will move to the output terminal with appropriate transformation ways in the system and follow the sequence of technology process. The sequence of technology process can be illustrated as following. First, the technology process control method and technology process control parameters that the energy functions are distributed in the transformation spots of the material, for example, the temperature of the system may be lower when the material is input while it may be higher when the material is running in the middle of the system. Second, under the function of energy, the components in the internal of the material have physical or chemical reactions continuously in time order. Third, The material is in different status when it's in different transformation spot and the status of it has different physical or chemical nature in different transformation spot. Four, in the process of input and output of the material, there is some time-lag between the time point of material input and energy function.

The time order of the material inside the system can help us classify the technology process of CP as an uninterrupted production process, however, the relevant production process are not independent and the material inside the system doesn't have a clear physical interface, therefore, the classification of production process of CP is unrelated to modularity.

The control of energy is realized by the information transformation. The higher the automation degree of the closed system is, the more complicated the interaction on the external information will be. Therefore, it can be observed that the computer integrated control system has been applied on a large scale in CP industries such as cement industry, oil refractory industry and chemical industry.

#### 4.2 Categories of Flexible Manufacturing in CP Enterprise

The production conversion of the multiple products in a single line of CP enterprise also follows time order. Technologically, there are two factors to drive product conversion, one is the components of raw material and the other is the means and parameter of technology process control when the energy functions. The table 5 reflects what we think about the conversion method of CP. The vertical axis displays the change of components of raw materials and the conversion of drive products, which makes the production generate flexibility. The horizontal axis displays the means of technology process control and the conversion of adjusting drive products of its parameter, which makes the production generate flexibility.

Table 5: Flexible manufacturing model of CP enterprise

	unchange of the method and parameter of technology process control	change of the method and parameter of technology process control
unchange of the components of raw materials	<b>No Flexibility</b>	<b>Control Flexibility</b>
Change of the components of raw materials	<b>Component Flexibility</b>	<b>Mixed Flexibility</b>

It can be seen from table 5 that the flexibility of CP enterprises can function



without relying on the group technology of modularity. On the premise that the components of raw materials, energy and parameters never change, the production line runs continuously in a single product production mode. Under the condition that the method and parameter of technology process never change, different products can be produced and the flexibility of manufacture is realized by adjusting the components of raw material , which we call Components Flexibility. Under the condition that raw materials never change, only adjust the method and parameter of technology process such as pressure, temperature, air volume and movement speed of material, it can also produce different products, which we call Control Flexibility.

Besides, in many cases the situation will happen, under which the components of raw materials and the method and parameter of technology process control all need to be adjusted and changed, we classify this kind of flexibility as Mixed Flexibility.

### **4.3 Characteristics of Alternate Body for Flexible Manufacturing in CP**

All CP enterprises concern the production process of the material input and product output. In order to realize the multiple products production in a single production line, under the condition of continuous production, whether it is component flexibility, control flexibility or mixed flexibility, it will output a product that is neither product A nor product B during the process of the production conversion between product A and product B as a result of the time-lag between material input and energy functions, which we call it Alternate Body. Alternate Body has the following characteristics:

#### **(1) Compatibility**

Alternate Body happens under the condition of adjusting the components of raw materials or changing the method and parameter of technology process control. Although it doesn't conform the standard of product A and B, the components between alternate body and product A and B have certain compatibility. Generally speaking, the better the compatibility of the "alternate body" is, the easier the conversion between two products will be. On the contrary, if the compatibility is very bad, even conflict with each other, the conversion of two products will be hard to realize under the CP. Therefore, the compatibility determines whether the product conversion is feasible or not technologically. Besides, the situation may happen under which the compatibility of the alternate body is worse when product A is converted to product B, but better when it is converted to product C, and the compatibility of the alternate bodies between product C and product B is not bad. Therefore, studying compatibility will help enterprise optimize the product production order in technical level.

Generally speaking, the similarity of the components of two products' raw material can improve the compatibility of the alternate body, the smaller the difference between two products' raw material, the better the components combine. In addition, the good compatibility between two products' raw material can also help to improve the compatibility of alternate bodies even though the components are quite different from each other.

#### **(2) Continuity**

Alternate Body is an intermedia in the product conversion process of two products. As the production process is always in a continuous state, the alternate body is also in such state, the alternate body will last till product B is output after the production of product A is over. If the conversion is abnormal and the production process never terminates, the alternate body will last a long time. Therefore, the duration of the

alternate body and its quantity will directly influence the conversion cost of the product.

Under the condition of the given raw material, the duration and quantity of the alternate body are related to the production control level. Generally, the less the method of technology process control increases or decreases and the smaller the magnitude of every parameter is adjusted, the shorter the duration of the alternate body becomes and the more smoothly the product is converted. Therefore, the smooth degree of conversion negatively corresponds to the adjusted variables of the method and parameter of technology process control.

### (3) Reversibility

The “alternate body” itself is a kind of substandard rejected material. However, it can largely reduce the conversion cost of CP enterprises if recycling, furtherdeveloping and reusing the alternate body with appropriate technology. What’s more, furtherdevelopment of the alternate body usually produces a new product, which can increase the manufacturing flexibility. Therefore, the reverse development of the alternate body can also be viewed as a kind of flexible technology of CP enterprises.

## 4.4 Strategic Choices for Large Scale Flexible Manufacturing in CP Enterprises

According to the internal of enterprises, the key of large scale flexible manufacturing of CP enterprises is still how to solve reducing the production cost under the condition of multi-products production, which is similar to modularity enterprises.

Compared with the mass production in a single production line, all CP enterprises face the problem of product conversion cost for large scale and multiple production lines production. So how to reduce the conversion cost of the product is the focus for CP enterprises to carry out flexible manufacturing

According to the analysis of the flexibility model and “Alternate Body” of CP enterprises, CP enterprises can adopt technical strategies below to reduce the conversion cost of flexible manufacturing, as shown in table 6.

Table 6: The technical strategy of reducing the conversion cost of CP enterprises

Technical strategy	The way to reduce the conversion cost
Product sequencing technology	According to the compatibility of alternate body, CP enterprises can push conversion, reduce the quantity of alternate body, promote conversion efficiency and reduce conversion cost by optimizing product production sequencing.
Transform control technology	According to the continuity of alternate body, CP enterprises can push conversion, shorten the occurrence time of alternate body, promote conversion efficiency and reduce conversion cost by optimizing process control technology.
Reverse product development technology	CP enterpriss can reduce conversion cost by recycling, redevelopment and reusing the alternate body.

## 5 CONCLUSION

The exploration of flexible manufacturing of CP enterprise can help to extend the production methods of MC and flexible manufacturing to CP enterprise, which plays positive role in satisfying diversified and personalized requirement or consumers and customers and pushing more industries to carry out flexible production way.

Different from the strategy that modularized industries realize product manufacturing flexibility by standard and universal model design and systematic combinations, CP enterprises mainly create the variety of product by component flexibility, control flexibility and mixed flexibility. However, from the view of enterprises, both modularized enterprises and CP enterprises hope to realize the variety of product by mass production. Therefore, the flexible manufacturing of both modularized enterprises and CP enterprises is based on low cost.

Of course the key strategy for modularized enterprises and CP enterprises reverse to use to reduce the cost is different. CP enterprises pay more attention on “alternate body”, which arrange product production order appropriately by studying the compatibility of “alternate body”, shorten the show-up time of “alternate body” by integrating technology process control and promote the “alternate body” to be an available reverse product by redeveloping it so as to reduce the production conversion cost. While modularized enterprises realize low cost production by standard and universal model mass production.

The paper mainly discusses about flexible manufacturing technology of CP enterprise. Actually the study on the production organization management system related to CP flexible manufacturing is still a new subject. Besides, the writers also are thinking if there is any unique feature in product variety and customized requirement compared with modularized enterprises when considering from the view of customer. Lastly, there may be some new problems for us to pay close attention if we put flexible manufacturing of CP enterprises into supply chain relations.

The practice study in this paper can be extended furthermore. Logically, the flexible manufacturing model, “alternate body” theory and flexible strategy of CP enterprises can be extended to other CP industries such as glass industry, metallurgy industry, papermaking industry, chemical industry, pharmacy industry and so on from special cement industry. It can be judged whether the flexible strategy in special cement industry can explain the flexible strategy in those industries by further study.

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**Developing business models for radical innovations:  
A new venture's perspective**

**Yann Truong<sup>a</sup>, Viatcheslav Dmitriev<sup>b</sup>**

**ABSTRACT**

The aim of this paper is to explore the practice of business model development during the commercialization of technological innovations. In this article the conceptualization of business model development was firstly developed from the literature. An *ex ante* conceptual model was subjected to empirical scrutiny from four technology venture creation cases in the pursuit of market commercialization. We framed our study along two stages – generating business ideas and organizing. Initially we elicited technology ventures perceptions of what they imagined the business model would look like. We then studied the business model stages as performed. The main form of data collection in this study was through semi-structured interviews with entrepreneurs from four case studies who were directly involved in the process of new business development from the earliest stage of idea generation. The paper contributes to the existing literature in several respects. First, we propose an alternative view to the process of business model development during the commercialization of technological innovations by distinguishing two principal stages of the process: the idea generation stage and the stage of organizing. Second, we shed light on the potential business model challenges associated with a number of factors, such as the type of innovation process, degree of radicalness of an invention and market development stage. Finally, we propose a new perspective to the concept of business model, through providing new insights into the forecasting potential of the business model concept. The concept can be used as a proxy to predict duration and difficulty of technology commercialization process given some characteristics of the process.

**Keywords:** Business model; Business model innovation; Technological innovation; Radical innovation.

# Program - Poster Sessions

## Financial Management

10:00-12:00, December 15, 2012 (Meeting Room 3)

**484: Effect of China's Commercial Banks' Diversified Revenue on Performance**

*Yongqin Deng*

*Hunan University*

*Zhaoyang Li*

*Hunan University*

*Yuan Yi*

*Hunan University*

**485: Impact of the Fair Value Measurement on the Value Relevance of Accounting Information—Empirical Evidence from Listed Companies in China**

*Yongqin Deng*

*Hunan University*

*Lili Kang*

*Hunan University*

*Lifang Zhang*

*Hunan University*

**1705: How Chinese Government Optimize Private Equity Investment Environment : Overseas Experiences And Enlightenment**

*Jiang Zhu*

*Hua Zhong University of Science & Technology*

*Yang Xiaohua*

*Beijing Technology and Business University*

**1776: An Analysis on the Corporate Debt Structure in Vehicle Rental Industry**

*Wang Wanxin*

*University of Hong Kong*

**1247: Affecting Factors on choice of Family financial assets in China's Rural Households**

*Lingjuan Xu*

*Nanjing University of Aeronautics and Astronautics*

*Yan Zhang*

*Nanjing University of Aeronautics and Astronautics*

*Guoli Zhang*

*Nanjing University of Aeronautics*



## Effect of China's Commercial Banks' Diversified Revenue on Performance

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**Abstract.** As the development of traditional credit business severely squeezed, attaching importance to non-interest income and building a diversified revenue structure have become an important means for China's commercial banks to achieve new revenue growth point and strengthen the competitive advantage. In this paper, we will explain the reason of China's commercial banks developing diversified revenue from the theories of financial innovation, diversity theory and economies of scope. We select the financial data of 14 commercial banks during the period of 1999 to 2009 as the research sample to have an overall and packet inspection on the relationship between diversified revenue and China's bank performance. The result indicates that there is a stable positive correlation between non-interest income and banks' performance for all of the commercial banks and state-owned banks, while the proportion of non-interest income has a positive impact on banks' performance in the joint-stock banks, yet diversified income structure shows a negative correlation with performance. Meanwhile it reveals that the proportion of non-interest income and diversified revenue have a lagged effect of different levels on banks' performance. Finally some suggestions are given to optimize China's commercial banks' revenue structure.

### 1. Introduction

Since the 1970s, with the government financial deregulation, the Western commercial banks set off a huge wave of business transformation, while obtained interest income in operating the traditional banking business of assets and liabilities, through diversification, integrated operation, and vigorously expand investment banking, securities brokerage business, make the non-interest income business and assets and liabilities business become a pillar of the equal emphasis on business. Financial market is gradually opening after china's accession to the WTO, the foreign continuous influx, many investors choose directly facing the capital market bypass banks, select a higher income investment opportunities, weakening the status of commercial bank to the traditional financial intermediary, the strict separation of management model can't satisfy its development. To address the negative effects of "disintermediation", the commercial

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banks committed to the development of non-interest income business. At the same time, a variety of technology, especially the development of information technology, not only save the limited resources of commercial banks, and can rapidly improve the operational efficiency and business processing capabilities, opening up new markets, creating new sources of funding or business opportunities, brings new potential income to commercial banks, which is helpful for commercial banks to use existing resources to expand non-interest income business. As a profitable business, any business is to maximize enterprise value. Development of non-interest income, diversification has become an inevitable trend and important direction to the strategic reform of China's commercial banks. According to their actual situation, it's particularly important to study the impact of the business structure and its transition to the operating performance in-depth, comprehensive, objective, and to make corresponding policy adjustments.

With regard to influence of the non-interest income on bank performance, different viewpoints are shared even contradictory. Rosie Smith and Christos Staikouras (2003) selected the data in the EU banking sector in the period of 1994-1998 for research found that the diversification of income can reduce bank risk [1]. Gallo (1996) thinks that the combination of interest, business and mutual fund business can increase the profitability of the bank under certain risk conditions [2]. Sheng Hu, Wang Bing(2008) analyzed the listed commercial bank of China disclosed in the 2003-2007 Annual Report data found that enhancing the proportion of non-interest income can help to improve the performance of commercial banks [3]. However, many studies have shown that the positive impact on the performance of non-interest income is not only limited, but also has a negative impact because of the strong volatility. Stroh (2004) used the portfolio framework to study the increasing non-interest income in the capital markets on the U.S. commercial banking revenues. The results show that there is no obvious correlation between the proportion of non-interest income and the average yield, while there is a significant positive correlation between the non-interest income share and the volatility of yields [4]. Steve and Klaus (2007) found that there are no direct diversification benefits and a stable negative relationship between non-interest income and bank performance for the banking sector by analyzing the performance of small banks in Europe in 1997-2003[5]. Laetitia (2007) separate the non-interest income into trading income and fee income, and found that those engaged in non-interest income business, the bank's risk is greater than the mainly engaged in credit business bank, and the greater of non-interest income, the higher of the bank's risk [6]. Wang Jing (2009) analyzed China's commercial banks in 1990-2007 unbalanced panel data regression. The results show that the restructuring of income has two sides: the non-interest income increasing indeed brought benefits; while the diversification of revenue structure followed by which has not improved bank earnings [7].

Overall, the method Western academic study in this issue is diverse, and has a mature view. There is a big gap between the breadth and depth of the commercial banks operating in China and the West, the study of non-interest income is still in its infancy, is not comprehensive, and mainly in the qualitative research, less quantitative research analyze diversified income structure effect associated with the perspective of revenue streams.

Research and innovation of this paper is mainly reflected in the theoretical analysis. Any new things take some time from appearing to be widely accepted, and innovation has to spend a huge cost, so we proposed non-interest income has a lag effect on bank performance in the hypothesis part, the subsequent empirical evidence confirms the hypothesis.

## **2. The theoretical analysis and research hypotheses**

International banking think, non-interest income is the income earned by the banks outside the core business activities and bond investing activities, including trust income, deposit account service charges, fees charged by the rental safety deposit box and other services, investment income and other non-interest income. In China, there is no uniform opinion for the definition of interest income and non-interest income. Rarely study banks' non-interest income business direct, and by studying the intermediate business instead. There are no clear statistical standards

and treatment methods for the indicator. Or, having recognized that its scope is wide than the intermediary business revenue, the research has not clearly defined, non-interest income business is divided into the processing business, trading business and consulting business, but in fact its content is still included in the intermediate business classification of People's Bank. Some believe that non-interest income not just including fee income, and including foreign exchange gains, investment income and other operating income, so it is divided more comprehensive and practical. Nevertheless, all China's banks treat non-interest income in value as the amount of operating income after the deduction of net interest income, specifically refers to the fee and commission income, foreign exchange earnings, investment income, other operating income. After new accounting standards issued in 2006, the changes in fair values are classified as non-interest income.

Comprehensive management is the phenomenon of integration the business content between banking, securities and insurance business, blurred the characteristics of the three sectors of banking, securities and insurance in the traditional sense, breaking the traditional division of the business scope of financial institutions, while expression the organic process constantly blurred boundary of a variety of products and integration, so integrated management can be used to refer to the diversification of the commercial banks. Interest income is given priority to china's banking industry in long-term, the non-interest income accounted for only 8.98% in 2007, the highest in China is merchants bank accounting for 15.7%[3], is still in the initial stage, the income structure of China's bank is single, implementing centralized operation strategy. Diversification of the revenue structure can be understood for commercial banks to investment income, foreign exchange gains and other non-interest income increased, accounting for higher interest income gap is getting smaller and smaller, becoming more and more average.

Financial innovation has led to commercial banks' diversified revenue. Financial innovation derived from the Schumpeter innovation ideas. Chen Daisun, Li Yining defined financial innovation as the new establishment production function of the financial sector, it is the new union of all sorts of financial elements, and it is market reform for pursuing profit opportunities. Financial institutions, financial markets and financial instruments is the main financial elements, financial innovation provide new financial functions through the modification or re-combination of these elements, make the liquidity, profitability and security of financial assets to achieve a high degree of unity, which improve the financial efficiency. Commercial banks innovation comes from external new demands of the social economic activities to commercial banks financial services, when the original banking system can't adapt to the requirements of the development of commodity economy, it will hinder or impede economic development. So, the bank can't meet the requirements of the development of commodity economy by a simple expansion of number and scale, and need to release the energy of innovation, imitation and promotion to meet new economic and social development. Financial product innovation as an important aspect of financial innovation, not only meet the peoples' diverse financial requirement to a certain extent, and expand the bank's business space, broadening the channels of the profitability of the bank. At the same time, financial innovation has accelerated international capital flows, and contributed to the commercial banks to expand their business scale and scope, and ultimately achieve diversification.

Financial diversification brings commercial banks' diversified revenue. Karl-Heinz Walter (1974) defined diversity as the market activities entering new products from a product perspective [8], it also can be interpreted as the mode of operation or growth behaviour of the products or services corporate cross more than one industry. From a comprehensive view, diversification represents a business activity into a new industry, production and market operators. Enterprises are expected to realize a greater effect than individual factors alone through diversification and effective combination of several factors, achieve synergies and realize economies of scope, and ultimately expand the market share and improve market position. It should be noted that corporate diversification is not the higher the better. When the business scope is small, moderate expansion of business scope can make full use of corporate resources, reduce unit costs and transaction costs; but once diversification is too high, more than

a certain degree, limited resources will not be able to generate sufficient cohesion, which affect the economies of scope. Meanwhile, with the continuous expansion of business scope, the complexity of business organizations, enhanced access to economies of scope become increasingly difficult to manage. Therefore, Ma Benz (1995) put forward business diversification should go refocusing, and properly diversified is the strategic choice of business obtaining the steady development [9].

Banking, securities, insurance, trust and other financial enterprises formed diversification of the financial industry on the basis of maintaining the existing business, expanding business scope, and gradually enter other industries such as finance and trade and provide a wide range of products or services. Compared with the general corporate diversity, homogeneity of financial assets is getting higher and higher, the correlation of different sectors is growing, linking different business up through the diversification has a high potential risk in the financial industry. According to statistics, commercial banks have a higher level of profitability with the securities sector. Visible diversified has the effect of spread risk to a certain extent, thus becoming one of development strategy in the financial industry.

Economies of scope further promote the commercial banks' diversified revenue. Economies of scope refer to enterprises obtain greater economic benefits than the separate production of each product by produce two or more products at the same time. When a diversified business enterprise has a number of separate product and market, the joint venture on a number of these projects can produce greater net produce than the separate operation of these projects.

According to the Coase theory of the firm, economies of scope also has the characteristics of moderation, and it's the most and largest "degree" for economies of scope when marginal cost of company and marginal cost of market transactions is equal. Over the years, commercial banks are separate operation, the consolidated operating a short time, China's commercial banks operating in the transition phase compound promote by the cross and tools of financial business to the integration of the property rights, many operating agency are in the consolidated operating edge, and still has much room for development, commercial banks are required to actively reform and strong innovation to achieve full integration between industries in different sectors and expand the business scope. Commercial banks has always carried out balance business, resulting in a highly competitive in commercial banks, mutual crowding the market, which promote the commercial banks began to focus on new business areas to ease the competition among banks through the development of new products and new markets, and to produce higher growth and sustainable benefits. This actually promoted the commercial banks diversifying business operations, through the emphasis on development business outside the traditional business, to achieve economies of scope.

Non-interest income business not only is the bank's new profit growth point, it is an important symbol of the modern commercial banks, the specific performance of the financial innovation. Not use or less to use of banks' own funds, non-interest income business can be used to circumvent the strict restrictions of capital adequacy ratio 8% of the management approach for the capital adequacy ratio of commercial banks, is not only conducive to the realization of its pillar position in the bank and reduce banks' dependence on the traditional credit business, but also promote common development between the traditional credit business and non-interest income business. Diversification can help to realize combination of remaining resources and new products, new markets, greatly enrich the product range of financial markets, not only make the resources of financial institutions are fully utilized, but also reduce customer search costs and the risk of fraud, improve customer return on investment, to achieve a "win-win".

Noting that a new non-interest income business need to experience some time before the public awareness and acceptance of, and because of the huge cost of inputs, the positive impact of non-interest income on bank performance will be postponed appear, so non-interest income have a certain lagged effect on bank performance. But the lag period may be depending on the influences of the banks and marketing tools. Then put forward:

Hypothesis 1: Non-interest income has the positive correlation with Performance of Commercial Banks, but this positive correlation has a time lag.

In the strict separated operation system, the income of china's commercial banks mainly come from deposit and lending spreads, the proportion of non-interest income business is very low, the development of non-interest income business is just forced to stable customer in order to better develop deposit and lending business. In recent years, China's economic market environment had a significant change, commercial banks began to realize that the only emphasis on deposit and lending business can't maintain a sustainable competitive advantage, which stimulate China's commercial banks continuous innovation and accelerate the development of various business in non-interest income to achieve diversification, to improve the proportion of non-interest income in operating income. Diversification can improve banking performance, and ultimately effective realize the scope economy. But we must hold correct understanding of the moderation of corporate diversification, because scope economy after all existing "moderate" feature.

According to the product life cycle theory, when the bank diversification is low, due to the high initial investment costs of development of a new business, the marketing awareness for the business is low, and the risk of new products' instability and services is high, resulting in a low market share. The income of sailing new products or services can't fully compensate for the initial investment cost, leading to reduce the overall effectiveness of banks. With the product or service tend to mature, the subsequent investment is gradually reduced, the unit product costs reduced significantly, the improvement of the revenue diversification can offset the increased costs, thus improving bank performance, and realizing the scope economy. However, with the product or service is admitted by more and more consumers, on one hand, competitors began to covet a handsome profit for that product or service, a large number of competitors rush into the market, make the product or service face serious homogeneity, the bank in order to keep the market competitive power, have to launch a price war, which restrict the improvement of income. On the other hand, the product market is becoming more and more saturated, in order to expand sales, the bank need to invest a lot of money for further improvement of product quality and product promotion, but can only charge a lower price, the high degree of revenue diversification only result in decreased operating performance. When corporate diversification exceeds a certain degree, will lead to resources scattered, limiting the growth of a variety of business. At his time, if lack of integration, it will not be able to produce cohesion, a variety of business risk will increase, the security of the financial assets and the trust and loyalty of the customers to banks will be reduced, losing their competitiveness, the loss will outweigh the gain, which will damage to the bank's operating performance more, appearing diseconomies of scope phenomenon.

Because China's banking comprehensive management, and the development of non-interest income business in a relatively short time, there is no formation of a high degree of revenue diversification, nor the formation of the best scope economy, therefore at this time the bank can't be at the stage of a high degree of income diversification letting operating performance decline. The rapid changes of capital marketing environment help China's banking sector go quickly out of the plight that non-interest income can't make up the initial investment cost, and has the negative impact on bank performance, earlier entered the stage of a positive correlation between income diversification and bank performance. Then put forward:

Hypothesis 2: Income diversification of China's commercial banks and commercial banks operating performance are positively correlated.

### **3. Study Design**

#### *3.1. The selection and measurement of variables*

Performance of commercial banks. We usually use the total return on assets (ROA) and return on equity (ROE) to measure the profitability of commercial banks. According to the formula total return on assets (ROA) = sales net profit margin \* total asset turnover, sales net profit

margin reflects the efficiency of cost management and service pricing policies; Total asset turnover is in the influence of the all investment project, reflecting the relationship between bank asset portfolio and earnings rate, reflecting the efficient use of assets. So this indicator can reflect a weighted combination of the banks in size and portfolio. And in the process of get the data, we found that China Everbright Bank and Guangdong Development Bank has negative net assets in some years, greatly affect the quality of the ROE indicators. So this paper selects the total return on assets (ROA) as explained variable to measure the level of banks' performance.

Commercial banks' diversified revenue structure. The commercial bank income consists of interest income and non-interest income, so income diversification means the proportion of non-interest income in operating income proportion gradually increased, so that the gap between the two income getting smaller and smaller, becoming more and more average. Learning from Stroh (2006), this paper use changes in the income structure to measure the degree of bank income diversification, WNET expressed interest income accounted for the share of operating income, WNON means non-interest income accounted for the share of total operating revenue, so we can use DIV to measure the diversity of the revenue structure:

$$\begin{aligned}
 DIV &= 1 - (W_{NET}^2 + W_{NON}^2) \\
 W_{NON} + W_{NET} &= 1 \\
 DIV &= 2W_{NON} - 2W_{NON}^2 \tag{1}
 \end{aligned}$$

The higher the values of the DIV, the higher the degree of diversification, the more average the proportion of non-interest income and interest income in total income.

Given that in some special situations, different operation strategy may show the same degree of diversification calculated in accordance with the above formula, so this paper use non-interest income share ( $W_{NON}$ ) as another explanatory variable to be controlled. This article expects to examine the effect of banks' diversified revenue structure on performance through the direct effects of non-interest income and the indirect effect of income diversification.

The selection and measurement of control variable. There may be many other variables affecting the bank's performance in addition to the degree of revenue diversification, in order to better study the influence of degree of revenue diversification on bank performance, this paper select the following variables as control variables based on the importance principle and considering the actual situation of our country as well as data can be acquired: the level of capital (EA), bank size (LnA), and credit ratio (LA).

**Table 1.** Variable symbol and calculation

Variable Type	Variable	Variable Symbol	Var
Explained variable	Return on Total Assets	ROA	Net profit/[(Total assets last year+ Total assets year-end)/2]
Explanatory variables	proportion of non-interest income	$W_{NON}$	Non-interest income /Operating income
	Degree of revenue diversification	DIV	$2 W_{NON} - 2 W_{NON}^2$
Control Variable	Level of capital	EA	Net capital/Total assets year-end
	Bank size	LnA	Ln(Total assets year-end)
	Credit ratio	LA	Net loans/Total assets year-end

### 3.2 Model design

This paper chooses panel data for regression. Because non-interest income share is expected to have a lagged effect on bank performance, but we are not clear about the specific lag, so we

using the general  $-n$  represented, the lag will determined by stepwise regression analysis. Constructing model is as follows:

$$ROA_{i,t} = \alpha + \beta_1 DIV_{i,t} + \beta_2 W_{NONI,t}(-n) + \beta_3 EA_{i,t} + \beta_4 \ln A_{i,t} + \beta_5 LA_{i,t} + \varepsilon_{i,t} \quad (2)$$

Where  $i=1,2,3,\dots, 14$ ;  $t=1999,2000,\dots,2009$  ;  $ROA_{i,t}$ ,  $DIV_{i,t}$ ,  $W_{NONI,t}$ ,  $\ln A_{i,t}$ ,  $EA_{i,t}$ ,  $LA_{i,t}$  are in Table 4;  $\beta_1$ 、 $\beta_2$ 、 $\beta_3$ 、 $\beta_4$ 、 $\beta_5$  are coefficient to be estimated,  $\beta_1$ 、 $\beta_2$  are used to measure the impact marginal increase in the degree of revenue diversification and non-interest income share on bank performance.

### 3.3 Sample selection and data sources

This paper selects the data in 1999-2009, the study sample consisted of four state-owned commercial banks and ten joint-stock commercial banks: Industrial and Commercial Bank of China, China Construction Bank, Bank of China, Agricultural Bank of China, Huaxia Bank, China Merchants Bank, Minsheng Bank, China CITIC Bank, Shenzhen Development Bank, Pudong Development Bank, Fujian Industrial Bank, China Everbright Bank and Guangdong development Bank. City commercial banks because of the regional restrictions in availability of data and operations scope, and policy banks in the particularity of the nature and business scope, they are all not in the study sample. In this paper, data are all derived from the Annual Report of the Bank and China Financial Yearbook. If the banks listed both in mainland China and Hong Kong, A-share market data disclosed in the annual report shall prevail, all data processed by EVIEWS3.0 and EXCEL2003 software.

## 4. Empirical Testing and Results Analysis

The descriptive statistical results based on all bank samples and the difference bank samples (omitted) shows that non-interest income is only in an average of 8.85 percent of total bank. State-owned banks is 11.32 percent, while the joint-stock banks is only 7.88%, so non-interest income is not the main income source of China's commercial banks in current. Degree of diversification is low, total bank samples are only 0.1558, the difference approach 0.0796, the difference of diversification degree and the degree of diversification of state-owned banks are higher than the joint-stock banks. The mean of total return on assets of the joint-stock banks and the state-owned banks are close, respectively is 0.0014, 0.0013. The state-owned banks' capital ratios, asset size, the proportion of credit assets are generally better than the joint-stock banks, has obvious advantages, but all banks' credit ratio are above 50%, indicating that the credit business is still the main business of the China's banking sector.

In order to test whether there is serious multicollinearity between independent variables, this paper calculates the correlation matrix between the independent variables (omitted). The study shows that the correlation coefficient between the diversified revenue structure and non-interest income share is as high as 0.9929, the correlation coefficients of diversified revenue structure, non-interest income share and asset size respectively approach 0.6459 and 0.6329, the correlation coefficient between the other variables are also not low, noting there may be multicollinearity between the explanatory variables.

Explanatory variables in the model including both non-interest income share index and indicators measuring the structure of diversified revenue, and the indicators is a quadratic function of non-interest income share, so the entire regression equation is not linear, but a quadratic model on non-interest income share. To avoid affecting the parameter estimates and eliminate the heteroscedasticity may be caused by the cross-sectional data, the diversification index  $DIV$  directly estimate the model by GLS as a secondary variable's replaced function in this paper.

### 4.1. The overall inspection of the sample

To eliminate the multicollinearity between variables, stepwise regression analysis have been carried out in this paper, excluding any equation making diversification targets and non-interest

income share not significant. Regression results are shown in Table 2. Stepwise regression analysis has been used for measuring the lag when additional variable is introduced until it reaches optimal results.

Model 1 is the situation that does not consider the control variables, and at this time, the lag of non-interest income share is 3. The significance of overall is high, but non-interest income share indicators is not enough significant for return on total assets, this may be influenced by the collinearity of non-interest income share and diversity index, so we need to further consider the impact of control variables on the explained variable

Model 2 - Model 4 is the regression results considered a separate control variable, after the step-by-step examination we found that model 2 is the most significant, and proportion of non-interest income lag two period at this time. However, proportion of non-interest income WNON has a weak influence in the explained variable

Model 5 - Model 7 is the best regression results considered two control variables, observing these three models, we found the model 5 is the most significant and suitable, and the effect each explanatory variable having on the explained variable is also significant from a single variable analysis.

Model 8 is the regression results proportion of non-interest income lagged two period and three control variables to be considered, the model can be found fit well and passed the test of significance. But we can found that the credit ratio (LA) is not significant for the impact on business performance

We can see the best of the eight models is model 5, and proportion of non-interest income  $W_{NON}$  and diversified indicators are all positively correlated with return on total assets, indicating the relationship of them is very stable. Therefore, we can conclude that hypothesis 1 and 2 have been verified in the overall inspection of the bank sample. The optimal model is as follows:

$$ROA_{i,t} = -0.009201 + 0.003263DIV_{i,t} + 0.005656W_{NON,t}(-2) + 0.011478EA_{i,t} + 0.00037 \ln A_{i,t} + \varepsilon_{i,t} \quad (3)$$

This equation shows that if all other variables held constant, proportion of non-interest income increase a unit, return on total assets will increase by 0.006 units, but the effect needs to lag two periods to be shown, while diversification indicators increase an additional unit, the return on total assets will increase by 0.003 units. Meanwhile, the control variable level of capital (EA) and bank size (LnA) all have the positive correlation with return on total assets, indicating that the higher capital levels and bank size, the more investment opportunities bank have and the better risk management capabilities, and thus more likely to generate economies of scale, to achieve a higher return on investment. And credit ratio (LA) affects both the numerator and denominator, so it has a limited impact on the return on total assets.

**Table 2.** Regression result of all bank samples

variables		DIV	$W_{NON}(-3)$	EA	LnA	LA	C	$R^2$	Adj-R2	F	Prob (F)
Model 1	Coefficient	0.005101	0.00112				0.00065	0.189935	0.178914	17.23348	0
	t	5.868831	0.858106				3.66545				
	P	0	0.3922				0.0003				
variables		DIV	$W_{NON}(-2)$	EA	LnA	LA	C	$R^2$	Adj-R2	F	Prob (F)
Model 2	Coefficient	0.004963	0.002451	0.017961			0.00012	0.470813	0.452353	25.50445	0
	t	4.074857	0.954827	4.738492			0.59372				
	P	0.0001	0.3423	0			0.5543				

variables		DIV	$W_{NOM}(-2)$	EA	LnA	LA	C	$R^2$	Adj-R2	F	Prob (F)
Model 3	Coefficient	0.00514	0.000909		0.00002		0.00057	0.188431	0.171868	11.37688	0.000001
	t	4.82969	0.671634		0.032623		0.00159				
	P	0	0.5029		0.974		0.7188				
variables		DIV	$W_{NOM}(-2)$	EA	LnA	LA	C	$R^2$	Adj-R2	F	Prob (F)
Model 4	Coefficient	0.005128	0.001907			-0.003751	0.00272	0.26202	0.246959	17.39747	0
	t	6.003005	1.448908			-3.828776	0.00057				
	P	0	0.1495			0.0002	0				
variables		DIV	$W_{NOM}(-2)$	EA	LnA	LA	C	$R^2$	Adj-R <sup>2</sup>	F	Prob (F)
Model 5	Coefficient	0.003263	0.005656	0.011478	0.00037		-0.0092	0.590507	0.571237	30.64349	0
	t	2.887059	2.395572	3.190678	4.984526		-4.8949				
	P	0.0049	0.0188	0.002	0		0				
variables		DIV	$W_{NOM}(-3)$	EA	LnA	LA	C	$R^2$	Adj-R <sup>2</sup>	F	Prob (F)
Model 6	Coefficient	0.004837	0.003264	0.01842		-0.001067	0.00073	0.479225	0.454718	19.55454	0
	t	4.712163	1.386044	4.746137		-0.91483	1.07195				
	P	0	0.1694	0		0.3629	0.2868				
variables		DIV	$W_{NOM}(-3)$	EA	LnA	LA	C	$R^2$	Adj-R <sup>2</sup>	F	Prob (F)
Model 7	Coefficient	0.004326	0.002146		0.000066	-0.004172	0.00129	0.271775	0.251686	13.52858	0.00001
	t	4.313067	0.001273		1.092509	-4.036578	0.84145				
	P	0	0.094		0.2764	0.0001	0.4015				
variables		DIV	$W_{NOM}(-2)$	EA	LnA	LA	C	$R^2$	Adj-R <sup>2</sup>	F	Prob (F)
Model 8	Coefficient	0.003235	0.005637	0.011502	0.000374	0.000223	-0.0094	0.590733	0.566372	24.24899	0
	t	2.827585	2.372525	3.177973	4.898788	0.215169	-4.4371				
	P	0.0059	0.02	0.0021	0	0.8302	0				

#### 4.2. The packet inspection of sample

Used the same way as the overall inspection, all bank samples are divided into state-owned banks and joint-stock banks, respectively making regression analysis.

As shown in Table 3, the state-owned banks obtained eight models the same as overall inspection, in addition to the individual models, proportion of non-interest income and diversified revenue structure are positively correlated with the return on total assets, so we can conclude this relationship is stable. It's clear that the regression results of the state-owned banks are the same with the bank's overall inspection. For the optimal model, considering the value of R2 and F, we decided to adopt the model 8. The optimal model is as follows:



$$ROA_{i,t} = -0.0498 + 0.035214DIV_{i,t}(-1) + 0.050483W_{NON,t}(-1) + 0.024438EA_{i,t} + 0.001426 \ln A_{i,t} + 0.015241LA_{i,t} + \varepsilon_{i,t} \quad (4)$$

The equation shows that other variables remain unchanged, a unit increase in proportion of non-interest income, the total return on assets will increase by 0.05 units, the diversification index increase an additional unit, the total return on assets will increase by 0.04 units, but the result needs lag one period to be shown.

Different with the overall inspection results, the result of state-owned bank shows that three control variables are significant and positive effect on the explained variable. Noting the higher the state-owned banks' capital level, the greater the bank size, the higher the credit ratio, the higher is the return on total assets.

**Table 3. Regression result of state-owned banks**

variables		DIV	$W_{NON}(-1)$	EA	LnA	LA	C	R2	Adj-R2	F	Prob (F)
Model 1	Coefficient	0.005854	-0.00079				0.00025	0.242494	0.203647	6.242367	0.004447
	t	3.323574	-0.317958				0.67522				
	P	0.0019	0.7522				0.5035				
variables		DIV	$W_{NON}(-2)$	EA	LnA	LA	C	R2	Adj-R2	F	Prob (F)
Model 2	Coefficient	0.003052	0.009827	0.01691			0.00172	0.455404	0.338705	3.902372	0.032249
	t	2.006344	3.065199	1.33986			1.95756				
	P	0.0645	0.0084	0.2016			0.0705				
variables		DIV	$W_{NON}(-2)$	EA	LnA	LA	C	R2	Adj-R2	F	Prob (F)
Model 3	Coefficient	0.001446	0.001385		0.001603		-0.0459	0.504214	0.464015	12.54299	0.000008
	t	0.894172	0.716106		4.495609		-4.4585				
	P	0.377	0.4784		0.0001		0.0001				
variables		DIV	$W_{NON}(-2)$	EA	LnA	LA	C	R2	Adj-R2	F	Prob (F)
Model 4	Coefficient	0.001857	0.002363			-0.008825	0.006	0.470873	0.427971	10.9755	0.000027
	t	1.124674	1.215709			-4.074993	4.18478				
	P	0.268	0.2318			0.0002	0.0002				
variables		DIV	$W_{NON}(-2)$	EA	LnA	LA	C	R2	Adj-R2	F	Prob (F)
Model 5	Coefficient	0.002249	0.008813	0.020137	0.0004		-0.0102	0.477792	0.317112	2.973569	0.060168
	t	1.194136	2.496317	1.487885	0.746546		-0.6378				
	P	0.2538	0.0268	0.1606	0.4686		0.5347				
variables		DIV	$W_{NON}(-1)$	EA	LnA	LA	C	R2	Adj-R2	F	Prob (F)
Model 6	Coefficient	0.006947	0.010789	0.005347		0.006521	-0.0013	0.522488	0.375561	3.556106	0.036014
	t	3.033699	3.027503	0.432318		1.853158	-0.68				
	P	0.0096	0.0097	0.6726		0.0867	0.5084				
variables		DIV	$W_{NON}$	EA	LnA	LA	C	R2	Adj-R2	F	Prob

											(F)
Model 7	Coefficient	-0.011493	0.016147		0.001237	-0.007273	-0.0304	0.646747	0.609562	17.39287	0
	t	-1.444074	1.436514		4.151578	-3.855605	-3.4107				
	P	0.1569	0.159		0.0002	0.0004	0.0015				
variables		DIV(-1)	W <sub>NON</sub> (-1)	EA	LnA	LA	C	R <sup>2</sup>	Adj-R <sup>2</sup>	F	Prob (F)
Model 8	Coefficient	0.035214	0.050483	0.024438	0.001426	0.015241	-0.0498	0.626264	0.470541	4.021646	0.022428
	t	1.729787	1.845541	2.106765	3.514334	3.300448	-3.7571				
	P	0.1093	0.0898	0.0569	0.0043	0.0063	0.0027				

Table 4 is the stepwise regression results of joint-stock banks, and it also obtained eight models, model 5 is the optimal regression results only considered capital levels and bank size, so the ROA regression model is made up of the variables of model 5, the optimal model is as follows:

$$ROA_{i,t} = -0.015398 - 0.051870DIV_{i,t}(-1) + 0.088542W_{NON_{i,t}}(-1) + 0.008238EA_{i,t} + 0.000628ln A_{i,t} + \varepsilon_{i,t} \quad (5)$$

The equation shows that other variables remain unchanged, a unit increase in proportion of non-interest income, the total return on assets will increase by 0.09 units, the result only needs lag one period to be shown, while the diversification index increase an additional unit, the total return on assets will decrease by 0.05 units.

Seeing from the eight model, we can find proportion of non-interest income is positively correlated with the return on total assets in most models, while diversified revenue structure indicators is negatively related with return on total assets, and the relationship is stable. We can conclude the joint-stock bank has the opposite result with state-owned banks and the overall bank.

For the control variables, in addition to credit ratio variable, capital levels and bank scale all have a positive impact on model, the results is the same with the previous text. Showing the higher the joint-stock banks capital level, the greater the bank size, the higher the return on total assets.

**Table 4. Regression result of joint-stock banks**

variables		DIV	W <sub>NON</sub>	EA	LnA	LA	C	R <sup>2</sup>	Adj-R <sup>2</sup>	F	Prob (F)
Model 1	Coefficient	-0.021496	0.042146				0.00112	0.184049	0.168797	12.06765	0.000019
	t	-1.485404	1.842064				3.74112				
	P	0.1404	0.0682				0.0003				
variables		DIV(-1)	W <sub>NON</sub> (-1)	EA	LnA	LA	C	R <sup>2</sup>	Adj-R <sup>2</sup>	F	Prob (F)
Model 2	Coefficient	-0.051492	0.094292	0.016618			0.00071	0.456518	0.432541	19.03971	0
	t	-1.784825	1.980124	4.361037			1.61338				
	P	0.0787	0.0517	0			0.1113				
variables		DIV	W <sub>NON</sub> (-1)	EA	LnA	LA	C	R <sup>2</sup>	Adj-R <sup>2</sup>	F	Prob (F)
Model 3	Coefficient	0.001699	0.003389		0.000268		-0.0063	0.227703	0.205637	10.31936	0.000005

	t	1.03273 4	1.73627		2.53548 7		-2.327 9					
	P	0.3041	0.0854		0.0127		0.0218					
	variables	DIV	$W_{NIM}(-1)$	EA	LnA	LA	C	$R^2$	Adj- $R^2$	F	Prob (F)	
Model 4	Coefficient	0.00517 3	0.002381			-0.0021 52	0.0016	0.20595 8	0.18327 1	9.07828 6	0.00002 1	
	t	4.05458 6	1.224535			-1.8377 22	2.6500 1					
	P	0.0001	0.2235			0.0689	0.0093					
	variables	DIV(-1)	$W_{NIM}(-1)$	EA	LnA	LA	C	$R^2$	Adj- $R^2$	F	Prob (F)	
Model 5	Coefficient	-0.0518 7	0.088542	0.00823 8	0.00062 8		-0.015 4	0.62109 2	0.59847 1	27.4560 1	0	
	t	-2.1373 69	2.209625	2.31269 9	5.39450 6		-5.116 5					
	P	0.0362	0.0306	0.0238	0		0					
	variables	DIV(-1)	$W_{NIM}(-1)$	EA	LnA	LA	C	$R^2$	Adj- $R^2$	F	Prob (F)	
Model 6	Coefficient	-0.0484 94	0.08973	0.01643 2			-0.0008 96	0.0011 4	0.46042 3	0.42821	14.2928 4	0
	t	-1.6563 28	1.859771	4.28529 6			-0.6963 54	1.5070 8				
	P	0.1023	0.0673	0.0001			0.4886	0.1365				
	variables	DIV	$W_{NIM}(-1)$	EA	LnA	LA	C	$R^2$	Adj- $R^2$	F	Prob (F)	
Model 7	Coefficient	0.00178 5	0.003564		0.00035 3	-0.0032 46	-0.006 9	0.28110 7	0.25345 7	10.1667 1	0.00000 1	
	t	1.11891	1.882605		3.29719 9	-2.7795 26	-2.608 9					
	P	0.2658	0.0625		0.0013	0.0065	0.0104					
	variables	DIV(-1)	$W_{NIM}(-1)$	EA	LnA	LA	C	$R^2$	Adj- $R^2$	F	Prob (F)	
Model 8	Coefficient	-0.0459 83	0.079308	0.00750 7	0.00065 5	-0.0017 64	-0.015 3	0.63592 4	0.60834 2	23.0561 3	0	
	t	-1.8973 58	1.983995	2.11706 8	5.64046 7	-1.6397 11	-5.131 6					
	P	0.0622	0.0514	0.038	0	0.1058	0					

#### 4.3 Inspection findings and their policy implications

The conclusions of empirical test and policy implications are as follows:

(1). Non-interest income share of china's commercial banks has the positive correlation with total return on assets, consistent with Hypothesis 1, and packet inspection also get the same conclusion, the model needs to lag two periods to reach high significance in the overall inspection, while the packet inspection delayed a period can pass the test. It can clearly be seen non-interest income business can improve the utilization of bank resources, reduce unit costs, having the role of scope economy to meet the needs of consumers "one-stop shopping" to a certain extent, have an effect on maintaining and expanding customers resources and increasing customer switching costs, which can increase the bank yield.

China's commercial banks diversified revenue structure index is positively correlated with the banks' total return on assets, consistent with Hypothesis 2, but the packet inspection only applies to state-owned banks, that is to say the effect diversification on improving bank performance is only effective to state-owned banks. Diversified revenue structure of joint-stock banks may offset the benefit by more volatile non-interest incomes. Diversification of the revenue structure indicators also has a time lag before it has a significant positive impact on the

bank yields, but overall test has not seen this feature.

The reasons for the contrary conclusion of the state-owned banks and joint-stock banks are as follows. The first is the bank size. China's joint-stock banks generally established in the 1970s and 1980s, and most focused on the local development when newly established, up to now, there is no radiation to the whole country, coupled with the public psychological factor, to a large extent limited the access of customer resources. The bank can't full develop the traditional banking business for lacking of resources, had turned to develop non-interest income business for it does not require or simply takes very little banks' resources. Therefore, the development of non-interest income business increases the profit margins of the joint-stock banks. Because bank launched a new business takes a lot of investment costs, and the public is not familiar with the business, it takes some time to cover the costs and thus achieve positive net income, so the positive impact of non-interest income on banks' return on total assets need to be delayed to appear. Meanwhile, the joint-stock banks, because the client resources is relatively small, the quality is not high, in order to reduce costs, increase revenue, improve competitiveness, had to sale a number of different product to the same customer to realize the "bundling", increased the revenue stream correlation, a large number of business risks is focused on a core customer. Once a customer has a real risk, will have a tremendous adverse impact on the bank's diversified income, thereby reducing the potential diversification benefits, thus the negative effect between diversified revenue structure and the return on total assets of joint-stock banks raised. State-owned banks have natural advantages and can take advantage of existing resources to expand business scope, the bank does not require additional investment in significant cost, so the more extensive the scope of banking business, the more fully use of existing resources, the lower cost-sharing into a single business, the higher the net income of non-interest income business, the more diversified revenue structure, which improves banking performance, both non-interest income share and diversified revenue structure have a positive impact on the state-owned banks' performance. Although the capital investment of state-owned banks expanding non-interest income is less than the joint-stock banks, but they need to set up a special non-interest income business marketing agency, to establish and improve relevant rules and regulations, this investment is not low in absolute, therefore it also have the lag as the joint-stock banks does. State-owned banks played a leading role in China's banking sector, accounting for the vast majority of market share in the financial capital market, it is not difficult to understand the overall regression results for all banks sample is consistent with the regression results of the state-owned banks.

Second is the cost factor. Operating expenses are fixed costs, accounting for about 70% of the bank's operating expenses, which greatly affect the level of bank earnings, so it's reasonable to explain the effect diversified revenue structure on banks' performance by the comparative analysis the growth rate of non-interest income and operating expenses. To develop a new non-interest income business, bank may need to spend cost on formulating business specifications, determining the scope of business, improving the scientific and technological means and mastering the expertise of risk control, and place a variety of management costs. However, by observing Bank annual Report is still visible whether state-owned banks or joint-stock banks, non-interest income growth rate are much higher than the growth rate of operating expenses in most years, which shows that non-interest income growth in china's commercial banks did not cause the operating expenses increased significantly. Therefore, non-interest income growth can improve the banks' profit margins. Meanwhile, non-interest income accounting for state-owned banks generally higher than the joint-stock banks, but the proportion of the emerging business income of the joint-stock banks higher than the state-owned banks, the customer switching costs and information costs of this part are higher, and volatility is lower, remaining high risk, but joint-stock banks in China is not yet able to attract enough high-quality personnel to manage and control these risks because of late development and weakness and lack of objective understanding of the business. Therefore, investment income and other operating income had a negative effect on banks' profit margins, among which the negative investment income has the greatest impact. Therefore, diversified revenue structure of

state-owned banks is positively correlated with banks' performance, and diversified revenue structure of the joint-stock banks is negatively correlated with bank's performance.

## **5. Policy suggestions of optimization of revenue structure of the commercial banks**

### *5.1. Implementation of functional supervision and management.*

Enlarge the positive effects diversified revenue brings, and nip the potential risks in the bud. Functional regulators need to establish a unified central regulatory body. We can consider the establishment of the Financial Supervisory Commission led by the State Council of China, unified management of the country's financial regulatory agencies and regulatory activities, coordinate financial supervision and external parties concerned relations and improve monitoring capacity to achieve synergies and economies of scale. As soon as possible to establish and improve relevant laws and regulations, establish the authority of regulatory, and establish the mechanism of checks and balances on the powers of the regulators, to create a fair and competitive environment and conditions to realize the potential benefits of the market. As to financial group, we can consider forming the teams from different departments regulators to joint supervise them, thereby reducing the risk of financial group, to maximize scope economy.

### *5.2. Training financial compound type talent*

At present the quality and capacity of employees in China's banking sector is difficult to meet the needs of development of non-interest income business development, especially in the transaction business and consulting services, there is a greater gap. Thus china's commercial banks should put more effort on the construction of the existing personnel, make a training plan for the management talents of non-interest income business, establish the education and training system on the basis of their own actual situation; strengthen the external introduction, attract professionals to the bank specializes in non-interest income business. The banks are required to continuously improve the incentive and restraint mechanisms of non-interest income business, introduce scientific tools and methods and establish performance appraisal and evaluation system treat value creation as the core. The incentives should also be in the direction from simplification to the diversity and differences. Strengthen the responsibilities of line managers to effectively link up the staff management and incentives with the day-to-day business management. Change the past practice of re-operations management, light staff management, continue to strengthen the management responsibilities of line managers at all levels to employees, training, motivating, counselling, help and communication to achieve the effective combination of business management and staff management.

### *5.3. Adjust strategy to develop intermediary business*

Most commercial banks in China is weak, does not have sufficient strength to develop high-risk business, the banks are necessary to identify the market position and targeted develop intermediary business. Should continue to expand and innovate the tradition intermediary business, form a focused, phased, layered, sub-regional development to creating a criss-cross and positive interaction business processes and growing atmosphere. At the same time, banks should accelerate the pace of financial electronic, and establish a smooth flow information network, make computer terminal extension to the relevant industry, provide customers with multi-functional and more convenient service, realize the extension of operating units, hours of operation and authorization control, improve the competitiveness of commercial banks by virtue of the electronic advantage. Aiming at the particularity of China's economic environment, develop new products both close to the market and suitable for different types of customer requirements and habits, and the product should have "Chinese character", expand and extend the service functions of the new products, improve systematic and penetration of product, to achieve long-term possession of the products in the relevant market and the corresponding customers to enhance the competitiveness of their products.

#### 5.4. *Establishment of a modern marketing concept and marketing system*

Chinese commercial banks need to develop a customer-centric and market-oriented modern marketing system. Build its own characteristics of the brand through an integrated marketing strategy, take a multi-level, comprehensive and modern marketing tools to realize the bundling of a variety of business, strengthen risk prevention and control, and promote the common development of various types business and the positive interaction of assets and liabilities business to achieve integrated management and improving business performance goals.

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# Impact of the Fair Value Measurement on the Value Relevance of Accounting Information——Empirical Evidence from Listed Companies in China

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**Abstract.** This article extracts samples of listed companies in China's A-share market from 2005 to 2010. It analyzes the value relevance of fair value information in two aspects of financial sector and non-financial sectors. Firstly, it is covered that after moderately introducing fair value measurement, the overall relevance in non-financial sectors is improved, financial sector also conforms this characteristic excepting in financial crisis years. Secondly, EPS (earnings per share) has higher incremental value relevance compared to net assets per share. Thirdly, profits and losses on the changes in fair value recognized in the income statement and fair value changes of financial assets available for sale recognized in the item of owner's equity both have incremental value relevance. Ultimately, it provides a couple of policy recommendations to improve the fair value information's value relevance.

## 1. Introduction

Value relevance of accounting information is the reaction of the capital market to the release and disclosure of accounting information. It measures the relationship between accounting information and stock price from the perspective of capital market investors. It also points out the ability of explanation of accounting information to stock prices and the usefulness of decision-making for investors. As a fundamental attribute of accounting information, value relevance of accounting information is absolutely significant to regulate securities market,

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reform accounting system and investors' decision-making.

Chinese Ministry of Finance promulgated Accounting Standards for Enterprises on February 15, 2006. Its major highlight is to moderately introduce fair value measurement to adapt the development of China's market economy, achieving the convergence with international financial reporting standards. However, when China was introducing fair value measurement with much fanfare, subprime mortgage crisis broke out in United States. A fierce controversy about fair value occurred in practice territories especially financial sector, focusing on whether fair value is the “culprit” leading to this financial crisis. People also suspect Pro-cyclical Effect, which is a vicious circle of “the price of financial derivative tools declines—make an impairment provision for financial assets—people sell financial derivative tools with panic—the price of financial derivative tools declines continuously”, whether has contributed to the financial crisis or not.

Relevant empirical findings can be divided into two parts. One believes the ability of accounting information to explain stock prices and the usefulness of decision-making for investors, whereas the other denies it. Landsman (1996) confirmed that it is helpful for investors to predict or explain share price after banks disclosed fair value information in accordance with SFAS 107. The capacity of fair value information to explain stock prices depends on the sophistication of fair value's valuation techniques. Richard (2000) studied the investment real estate in the United Kingdom and found that fair value can reflect the value of investment real estate more veritably than historical cost, although the fair value was underestimated. Eric D.Hirst (2004) found that only under the premise of adopting comprehensive fair value to measure income, can banking analysts identify differences of disclosing bank interest rate risk when they evaluate risk and value. Ye Zhang and Qian Hu (2007) found that it has significant incremental expository capabilities for company prices and market yields; no matter it is the terminal value of financial assets at fair value or unrealized gains due to the fluctuation of fair value, with the sample of listed financial companies in Hong Kong. Yongze Liu (2011) believed that the information related to fair value of listed companies in China has certain value relevance and the introduction of fair value in new accounting standards improves the content of financial reporting information, to a certain extent.

There exist a couple of different conclusions, however. Khurana (2003) tested related data of banks from 1995 to 1998 in United States. The results suggest that fair value of financial instruments is no more relevant with share price than historical costs and there is no difference. At the same time, historical cost contains richer content of information than fair value, considering that banks have limited scale and indeterminate information environments. Chuanzhou Deng (2005) studied the B-shares companies which disclose fair value in accordance with IAS (International Accounting Standards) 39, found that the disclosure of fair value significantly increases the value relevance of accounting earnings. It indicates that investment gains (losses) at fair value have weak incremental expository capacity, and adjustments of investments at fair value do not show any value relevance.

Visibly, there is no agreement on value relevance of fair value, and fair value measurements cannot fully replace historical cost yet. The disclosure of fair value of highly liquid financial instruments with objective and fair market transaction price has strong value relevance. Whereas the fair value information of illiquid financial instruments, which lack of available market for observation, does not necessarily have information content, because it relies on valuation models and related assumptions.

The main contribution of this article is to divide the samples into two groups, which are financial and non-financial sectors, distinguish profits and losses on the changes in fair value per share and changes in fair value of financial assets available-for-sale per share, adopt research methods of relative association and incremental association to test value relevance of fair value information respectively, thus we can observe the impact of value relevance of accounting information on fair value measurement entirety.

## **2. Theoretical Analysis and Research Hypotheses**



The accounting objectives determine the choice of accounting measurement model, based on different accounting goals, the leading metering model will change. China's 2006 version "Accounting Standards for Enterprises—Basic Standards" defined the financial reporting objectives, it gives priority to decision-making useful concept, taking into account the concept of fiduciary duty, and strengthen the provision of decision-useful accounting information for investors and the public, which requires the accounting information to prove basis for investors to evaluate corporate risk and predict the enterprise value as much as possible. Due to the lack of relevant information, the historical cost measurement has been criticized, while fair value measurement used moderately. The use of fair value measurement can reflect the true intrinsic value of the assets; improve the quality of accounting information effectively and help investors make right investment decisions, thus proposed:

H1: The application of fair value measurement attribute enhances the value relevance of accounting information in general.

From the trend of development of the theory of accounting measurement, accounting earnings concept will gradually replaced by balance sheet concept. It is not difficult to find in the 06 version of China's accounting standards, the definition of the accounting elements of the assets, liabilities, income and expenses are reflecting the changes from the earnings outlook to the concept of balance. Corporate income tax accounting method also changed to the balance sheet debt method, compare the book value in accordance with the accounting standards of assets and liabilities with the tax basis in accordance with the tax law, the differences are recognized as deferred tax assets and deferred income tax liabilities, and finally determine the income tax expense for each accounting period on basis of this. Based on the concept of balance sheet, income statement is a subsidiary product of the balance sheet, the corporate income become a net increase in the amount of the enterprise' final net assets to the initial net assets, the assessment focus of corporate' related financial position and operating results transferred to the increase of corporate' net assets, net assets value more than profits from the perspective of investors, thus proposed:

H2: After measuring at fair value, net assets have more incremental value relevance than accounting earnings.

China's 06 version accounting standards provide two measurement methods on the amount of changes in fair value, one is recorded in the profits and losses of the current period, that is directly included in the income statement' profits and losses on the changes in fair value when occurs; another is first recognized as the capital reserve, that is, first included in owners' equity item of the capital reserve-other capital reserve when occurs, and then transferred to investment income. Fair value measurement attributes have different degrees of applying in 17 specific standards; make the intrinsic value of the assets and liabilities to better reflect the reality, besides, the generated accounting information can better reflect the financial position, operation results and is more advantageous to the investors to understand the real situations of the enterprise and to make reasonable investment decisions. Thus put forward the assumptions:

H3: Profits and losses on the changes in fair value in the income statement have incremental value relevance.

H4: The changes in the fair value of financial assets available for sale which included in the owner's equity have incremental value relevance.

### 3. Research Design

#### 3.1. The variable definition

**Dependent variable.** After fully absorbing the information disclosed by listed companies' annual reports, the capital markets can be reflected by the stock price, so we adopt the closing price of stock after the annual report published as the dependent variable of  $P_{i,t+1}$ , that is the last trading day market price per share of stock  $i$  in April in the  $t+1$  year.

**Independent variables.** Income and net assets are the most important data in the financial statements. This article selects the earnings per share  $E_{i,t}$  and net assets per share  $BV_{i,t}$  to interpret the stock price; In value correlation test of accounting information of fair value, the paper also introduces two variables as the represent variables of moderately introduced fair value measurement, changes in profits and losses on the changes in fair value per share of  $FV_{i,t}$  and changes in financial assets available for sale of  $FA_{i,t}$ , to explain the stock price.

**Table 1.** The definition and measurement of Variable

Variable Symbol	Variable name	Variable description
$P_{i,t+1}$	Share price	the last trading day market price of company $i$ in April in the $t+1$ year
$BV_{i,t}$	Net assets per share <sup>①</sup>	Total net assets of company $i$ in the year of $t$ /shares
$E_{i,t}$	Earnings per share <sup>②</sup>	Net profit of company $i$ in the year of $t$ /shares
$FV_{i,t}$	profits and losses on the changes in fair value per share <sup>③</sup>	The profits and losses on the changes in fair value $i$ of company $i$ in the year of $t$ /shares
$FA_{i,t}$	Changes in financial assets available for sale per share <sup>④</sup>	(Financial assets available for sale of company $i$ in the year of $t$ - financial assets available for sale of company $i$ in the year of $t-1$ )/ shares
$OBV_{i,t}$	Net assets per share excluding changes in financial assets available for sale per share	①-④
$OE_{i,t}$	Earnings per share excluding profits and losses on the changes in fair value per share	②-③

#### 3.2. Regression model

Value relevance can be studied through two research methods: the relative association and the incremental association. The relative association refers to the value relevance of accounting information under different accounting systems, and whether a group of variables is better to explain the stock price than another group under different accounting systems. Comparison of China's old and new accounting standards under which the system is more relevant accounting information should use the method of relative association studies. Incremental association studies in a system of accounting standards whether one or some of the selected

accounting data has the possibility of increasing the value relevance of accounting information, applying to an accounting standards enacted or amended or the occurrence of major events of a nation, to test whether they infect relevance of accounting information. Above assumptions, hypothesis 1 belongs to relative correlation, hypothesis 2, hypothesis 3, hypothesis 4 are incremental association.

In order to test H1, whether the fair value measurement enhances the overall value relevance of accounting information, this article draw on the model of the Ohlson (1995), the price model is as follows:

$$P_{i,t+1} = \alpha_0 + \alpha_1 E_{i,t} + \alpha_2 BV_{i,t} + \varepsilon_{i,t} \quad (1)$$

In order to test H2, that is if net assets over accounting earnings has more incremental value, the overall value relevance of accounting information is decomposed on the basis of the aforementioned price model. The overall value- relevance of accounting information  $R^2_T$  is decomposed into the value correlation of net assets per share  $R^2_{BV}$ , the value correlation of the earnings per share  $R^2_E$ , the joint value correlation  $R^2_0$  about both of net assets per share and earnings per share. There are the following three regression equations in the decomposition process:

$$P_{i,t+1} = \alpha_0 + \alpha_1 E_{i,t} + \alpha_2 BV_{i,t} + \varepsilon_{i,t} \quad \text{the goodness of fit is } R^2_1 \quad (2)$$

$$P_{i,t+1} = \beta_0 + \beta_1 E_{i,t} + \varepsilon_{i,t} \quad \text{the goodness of fit is } R^2_2 \quad (3)$$

$$P_{i,t+1} = \gamma_0 + \gamma_2 BV_{i,t} + \varepsilon_{i,t} \quad \text{the goodness of fit is } R^2_3 \quad (4)$$

$R^2_T = R^2_1$  is the overall value relevance of accounting information;  $R^2_2$  is the value relevance of earnings per share information;  $R^2_3$  is the value relevance of net assets per share information;

$R^2_{BV} = R^2_1 - R^2_2$  is net assets per share on the interpretation of the shares of incremental information (5)

$R^2_E = R^2_1 - R^2_3$  is earnings per share on the interpretation of the shares of incremental information (6)

$R^2_0 = R^2_1 - R^2_2 - R^2_3$  is the joint value of net assets per share and earnings per share on the interpretation of the shares of incremental information (7)

If  $R^2_{BV} > R^2_E$ , this assumption can be proved.

In order to test H3, that is whether the profits and losses on the changes in fair value has the incremental value relevance, this paper decomposes the overall accounting information value relevance on the basis of the aforementioned price model as follows the pricing model:

$$P_{i,t+1} = \alpha_0 + \alpha_1 FV_{i,t} + \alpha_2 OE_{i,t} + \alpha_3 BV_{i,t} + \varepsilon_{i,t} \quad (8)$$

If  $\alpha_1$  significantly different from 0, we can prove this assumption.

In order to test H4, that is if changes of fair value in financial assets available for sale have incremental value relevance, there is the following pricing model:

$$P_{i,t+1} = \beta_0 + \beta_1 FA_{i,t} + \beta_2 OBV_{i,t} + \beta_3 E_{i,t} + \varepsilon_{i,t} \quad (9)$$

If  $\beta_1$  significantly different from 0, we can prove this assumption.

### 3.3. Sample selection and data sources

This paper selects the listed companies of the 2005-2010 Shanghai and Shenzhen A-share as the study sample. Taking into account the influence of the true disclosure of the accounting information to the correlation of accounting information value, the listed companies which were issued modified audit report are excluded; As profits and losses on the changes in fair value is the key to test the use of the fair value; The listed companies which profits and losses

on the changes in fair value is 0 are excluded for the elimination of noise; The listed companies are removed with suspending, terminating, the lack of financial data. Be screened in accordance with the above criteria, the remaining 313 non-financial listed companies and 140 financial sector listed companies, including 16 companies each in 2005-2006 and 27 companies each in 2007- 2010. The research data is from CSMAR database and the statistical software of data processing uses Excel and Spss Statistic 17.0.

#### 4. Empirical Tests and Results Analysis

##### 4.1. Results of descriptive statistics

According to the results of descriptive statistics for each variable(ellipsis), of non-financial industry groups and financial industry groups from 2005 to 2010, the index of the share price(p), net assets per share(BV), earnings per share(E) was mostly first increased, then decreased and then had an upward trend. The fall appeared in the financial crisis year in 2008, after a period of adjustment, it rebounded in 2009 and 2010. Two samples of the price, net assets per share and earnings per share are generally positively correlated; difference is that the financial industry group average is higher than non-financial industry group; the average of the share price of financial industry group dropped from 36.56 in 2007 to 10.48 in 2008, a decline of up to71.33%, indicating that the financial enterprises were influenced more heavily by the financial crisis than non-financial enterprises.

The mean of profits and losses on the changes in fair value per share for the financial industry group is higher than non-financial industry groups, mainly because the financial firms generally have more financial assets than the non-financial enterprises, the amount of changes in fair value is larger; financial and non-financial group, profits and losses on the changes in fair value per share, changes in financial assets available for sale in year 2007 is positive, negative in year 2008, and have risen in 2009, indicating that the China's capital market was influenced by the U.S. Financial crisis, it appeared a upward trend after a bigger drop in the fair value of assets. Besides, the share price, net assets per share, profits and losses on the changes in fair value per share, earnings per share omitted by profits and losses in fair value, changes in financial assets available for sale per share and net assets per share omitted by changes in fair value, are generally positively related.

##### 4.2. Regression Results

Test H1, the overall value relevance of accounting information enhanced or not.

**Table 2.** 2005-2010 regression results of financial sector listed companies' model (1)

Variables	2005		2006		2007		2008		2009		2010	
	Coe	t	Coe	t	Coe	t	Coe	t	Coe	t	Coe	t
Constant	2.32	2.95*	2.27	3.16*	8.369	2.49*	5.03	2.88**	6.47	2.47*	7.22	6.59**
$E_{it}$	2.65	2.65*	2.79	2.8*	9.36	2.85**	1.68	1.51*	10.01	2.85**	11.2	9.52**
$BV_{it}$	1.32	3.62*	1.34	3.66*	2.79	5.44**	1.44	4.7**	1.46	4.76**	1.49	4.86**
Adj.R <sup>2</sup>	0.531		0.545		0.71		0.31		0.56		0.63	
N	16		16		27		27		27		27	
F	14.21**		14.7**		42.36**		7.03**		20.93**		28.7**	

Note: the sample interval includes 2005-2010 data, \*,\*\*, respectively, is significant at the statistical level of 0.05 and 0.01 (two-tailed test). Coe is shorted for coefficients.

**Table 3.** 2005-2010 regression results of non-financial sector company's model (1)

Variables	2005		2006		2007		2008		2009		2010	
	Coe	t	Coe	t	Coe	t	Coe	t	Coe	t	Coe	t
Constant	2.521	4.17**	3.07	5.76**	6.71	2.86*	7.71	6.88*	7.06	6.67**	7.02	6.56**
$E_{it}$	5.014	6.41**	5.09	6.8**	12.82	10.5**	6.57	7.11**	11.67	10.5**	12.1	9.82**
$BV_{it}$	0.932	3.52**	0.94	3.6**	1.05	4.48**	1.11	4.7**	1.46	5.7**	1.48	5.86**
Adj.R <sup>2</sup>	0.317		0.32		0.51		0.382		0.47		0.487	
N	313		313		313		313		313		313	
F	91.35**		76.8**		163.6**		97.6**		139.6**		148.7**	

Note: the sample interval includes 2005-2010 data, \*,\*\*, respectively, is significant at the statistical level of 0.05 and 0.01 (two-tailed test). Coe is shorted for coefficients.

Table 2 and 3 show the F value is significant at the 1% level, the overall model is meaningful. Between 2005 and 2010, the regression coefficients of two sets of earnings per share, net assets per share are different from 0 and greater than 0 at 5% and 1% significant level, indicating a positive correlation between two variables and stock price; its regression coefficients generally had an upward trend, but the financial industry group in 2008 is an exception. The coefficients of earnings per share of financial industry group ranging from 9.36 in 2007 and down to 1.68 in 2008, the significant level is also drop from 1% to 5%, the coefficient of the net assets per share fell from 2.79 in 2007 to 1.44 in 2008, maybe due to the financial crisis, the stock market turned to the bear market, the broader market fell sharply, leading investors concern more about corporate earnings. The goodness of fit R<sup>2</sup> of financial industry group is greater than non-financial industry groups, indicating that the financial company's share price compared with non-financial enterprises are better explained by accounting earnings and net assets; In 2008, the changes of R<sup>2</sup> of financial industry groups is greater than non-financial groups, indicating that the financial enterprises influenced by the financial crisis is much larger than the non-financial enterprises.

In summary, after the moderate introduction of fair value of financial industry group in 2007, 2009 and 2010, the explanatory power of the net assets on the stock price increase, while do not increase in 2008 but decline, so, it refuse H1 for financial companies. After the moderate introduction of fair value in non-financial industry groups, the explanatory power of the accounting earnings and net assets on the stock price increase, that is, after the moderate introduction of fair value, the correlation of value of overall accounting information enhanced. Therefore, accept H1 for non-financial group.

Test H2, whether the net assets than accounting earnings have incremental relevance

**Table 4.** Financial sector listed company's value relevance and incremental value relevance of each variable (adjusted judgment coefficient)

YEAR	R <sup>2</sup> <sub>1</sub>	R <sup>2</sup> <sub>2</sub>	R <sup>2</sup> <sub>3</sub>	R <sup>2</sup> <sub>BV</sub>	R <sup>2</sup> <sub>E</sub>	R <sup>2</sup> <sub>0</sub>
2007	0.74	0.72	0.65	0.02	0.09	-0.63
2008	0.31	0.27	0.26	0.04	0.05	-0.22
2009	0.58	0.52	0.34	0.06	0.24	-0.28

2010	0.69	0.57	0.42	0.12	0.27	-0.3
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**Table 5.** Non-financial listed companies' value relevance and incremental value- relevance of each variable (adjusted judgment coefficient)

YEAR	$R^2_1$	$R^2_2$	$R^2_3$	$R^2_{BV}$	$R^2_E$	$R^2_0$
2007	0.51	0.5	0.33	0.01	0.18	-0.32
2008	0.382	0.36	0.35	0.022	0.032	-0.328
2009	0.47	0.43	0.39	0.04	0.08	-0.35
2010	0.487	0.44	0.40	0.047	0.087	-0.353

Note:  $R^2_{BV} = R^2_1 - R^2_2$  is net assets per share on the interpretation of the shares of incremental information

$R^2_E = R^2_1 - R^2_3$  is earnings per share on the interpretation of the shares of incremental information

$R^2_0 = R^2_1 - R^2_2 - R^2_3$  is the joint value of net assets per share and earnings per share on the interpretation of the shares of incremental information

The regression results show that the incremental explanatory power of net assets on stock price is increasing every year, while the incremental explanatory power of earnings per share on stock price was first decreased and then had an increase trend of the two groups between 2007 and 2010. This showed that after the moderate introduction of fair value measurement, it improved the content and quality of accounting information of the balance sheet, investors are beginning to pay more attention to the consolidated data—net assets indicators in the balance sheet, but the accounting income indicators' explanatory power are still stronger than net assets indicators ( $R^2_E > R^2_{BV}$ ), that is the accounting earnings have more incremental value correlation than net assets. Therefore, reject H2.

Test H3 Whether changes in fair value losses and profits have incremental value-relevance.

**Table 6.** 2007-2010 regression results of financial listed companies' model (8)

Variables	Coefficients	t	VIF
Constant	4.22	2.72**	
$FV_{i,t}$	1.12	3.15**	2.016
$OE_{i,t}$	2.54	4.67**	2.54
$BV_{i,t}$	1.91	3.65**	2.74
	$R^2$ 0.42	F 22.53**	
	N 108		

Note: \*,\*\*, respectively, is significant at the statistical level of 0.05 and 0.01 (two-tailed test)

**Table 7.** 2007-2010 regression results of non-financial listed companies' model (8)

Variables	Coefficients	t	VIF
Constant	6.299	11.105**	
$FV_{i,t}$	0.414	2.159*	1.016
$OE_{i,t}$	13.082	17.639**	1.537

BV <sub>i,t</sub>	1.013	5.569**	1.543
	R <sup>2</sup> 0.362	F 235.537**	
	N 1252		

Note: \*,\*\*, respectively, is significant at the statistical level of 0.05 and 0.01 (two-tailed test)

The VIF test for variables of the model showed that variables' VIF value were not greater than 10, indicating that it doesn't exist significant multicollinearity among variables.

Regression results can be seen from table6 and 7, the F value in two sets of model are highly significant at 1% level, indicating that the model has significance. The coefficient of profits and losses on the changes in fair value per share in two groups are significantly greater than 0 at 1% and 5% level, indicating a significant positive correlation between the indicators and the stock price, fair value information has incremental value correlation. So, accept H3.

Correlation coefficient between changes in fair value loss  $FV_{i,t}$  and stock price is lower than the correlation coefficient between net assets per share  $BV_{i,t}$  and stock price, and lower than the correlation coefficient between earnings per share omitted by changes in fair value loss  $OE_{i,t}$  and stock price, it shows that the attention of the investors of major business income is higher than the net assets per share and changes in fair value loss in the investment decisions.

Test H4, whether the changes in the amount of financial assets available for sale has incremental value relevance

**Table 8.** 2007-2010 regression results of financial listed companies' model (9)

Variables	Coefficients	t	VIF
Constant	4.51	2.89**	
FA <sub>i,t</sub>	1.76	3.89**	1.17
OBV <sub>i,t</sub>	2.02	4.18**	2.54
E <sub>i,t</sub>	2.56	5.21**	2.43
	R <sup>2</sup> 0.46	F 25.46**	
	N 108		

**Table 9.** 2007-2010 regression results of non-financial companies' model (9)

Variables	Coefficients	t	VIF
Constant	5.47	10.51**	
FA <sub>i,t</sub>	0.967	3.14*	1.167
OBV <sub>i,t</sub>	1.16	6.86**	2.537
E <sub>i,t</sub>	8.41	11.21**	2.543
	R <sup>2</sup> 0.342	F 163.24**	
	N 1252		

Note: \*,\*\*, respectively, is significant at the statistical level of 0.05 and 0.01 (two-tailed test)

The VIF test for variables of the model showed that variables' VIF value are not greater than 10, indicating that it doesn't exist significant multicollinearity among variables.

Regression results can be seen from table8 and 9, the F value in two set of model were

highly significant at 1% level, indicating that the model has significance. In financial industry listed companies, the coefficient of the changes in the amount of financial assets available for sale is significantly greater than 0 at 1% significant level, the coefficient of non-financial industry group is greater than 0 at 5% significant level, indicating that the indicator and stock price has significant positive correlation and incremental value correlation. Their correlation coefficients were 1.76 and 0.967, the coefficient is greater than 0, so accept H4.

The correlation coefficient between changes in fair value of financial assets available for sale  $FA_{i,t}$  and stock value is lower than the correlation coefficient between net assets per share omitted by changes in fair value of financial assets available for sale per share  $OBV_{i,t}$  and stock price, and lower than the correlation coefficient between earnings per share  $E_{i,t}$  and stock price, it shows that the attention of the investors of major business income is higher than the net assets per share and changes in fair value of financial assets available for sale per share in the investment decisions.

## 5. Policy Recommendations

This paper shows that the introduction of fair value significantly improved the value relevance of accounting information of non-financial industry, and improved the value relevance of accounting information in the financial industry apart from the year of the financial crisis. This eliminates some of the concerns on using fair value in China, and provides empirical evidence for the standard-setters, promotes the further application of fair value to a certain extent. However, the value of accounting information great affected by the economic environment because the financial industry holding large amounts of financial assets. The U.S. financial crisis made the fair value measurement model had been accused of and sensitive feedback effects were considered exacerbated the breadth and depth of the crisis. Admittedly, the fair value measurement has a lot of problems, such as poor reliability, and vulnerable to manipulation, however, it can't be compared by any measurement attributes in response to market information, timeliness, efficiency, transparency, relevance. Therefore, it is not imperative to discuss how the fair value quit the stage of history, but how to guide it to effective better. In view of this, we proposed the following policy recommendations in our effective implementation of the fair value measurement model combined with the analysis of the conclusions of this article.

### 5.1. Establishment of an orderly, perfect and mature transaction market

The fair value definition contains an important assumption in FAS 157, which is the related assets or liabilities have an orderly and sophisticated market, but the fact indicates that this market hypothesis does not always exist. In the U.S. subprime mortgage crisis, due to the extreme panic of investors and credit markets are shrinking, the fair value measurement of assets-backed securities (ABS), mortgage-backed securities (MBS), collateralized debt warrants (CDO) and credit default swaps (CDS) and other financial derivatives market has been in name only. Therefore, speed up the construction of promoting multi-level capital market, and strive to foster at all levels of the market, establish a unified and fully competitive market environment, in order to reduce the fair value of acquisition costs, improve reliability, and making it has a broader scope; to regulate the internal governance, strengthen the checks and balances between the largest shareholder, to prevent the enterprise of state-owned shares "due to the dominance control", to play the role of market competition mechanism and



enhance the company's stock market liquidity, and provide a good conditions to the formation of the fair market value.

### *5.2. Improve the theoretical system of fair value*

China's 06 version of accounting standards expanded the application scope of fair value, greatly promoted the development and application of the fair value measurement. Unfortunately, China has not yet worked out a complete and systematic theoretical framework of the fair value measurement, in addition to mention the definition of fair value in the basic guidelines, other relevant recognized, measurement requirements and methods at fair value distribute in different specific criteria, and the application conditions are different in different projects, so it lack of comparability and consistency, increasing the complexity of accounting treatment and can't effectively guide practice. It is imperative that timely release the accounting standards of fair value measurement.

The development of the China's market is not high, learning from SFAS157 and combined with our own national conditions, we should moderately introduce and prudently use of fair value measurement. FAS 157 does not consider the impact of the lack of liquidity for measuring the fair value of assets in inactive markets; when market upheaval and the credit crunch lead to sub-prime products dropped from the first or second level to the third level, nor do FAS 157 timely put forward technical guidelines on how to determine the fair value, leading to the fair value measured at the third level with a lot of subjective and arbitrary. For this, the U.S. approach is to allow the company's management uses financial models and judgment to measure the fair value of assets. Given the market environment in China, China should give special attention to the measurement problem of this part of assets on fair value. Allowing the company to adopt its own model and judgment, but should give some qualification, such as restrictions on the company free to change the model which has been adopted to achieve the intent of regulation.

### *5.3. Complement off-balance disclosure mechanism of the uncertainty of the fair value*

The value-correlation of fair value has been generally recognized, but the reliability has always been controversial. Circumstances that affect the reliability of fair value mainly are non-active market, especially the asset or liability information can't be observed on the market, needing to use the model to estimate fair value. When information can't be observed in the market, we should use the reporting entity's internal data to make a lot of subjective judgment, which leads to the error of human judgment; there are many applications constraint of the model itself used to estimate the fair value, such as the famous option pricing model is based on a smooth, perfect market assumptions, but reality may not be able to meet the conditions, in this case use this model to estimate will inevitably lead to measurement error; if the estimate model using the future estimated information, these information is bound to be great uncertainty, and expression requires the use of a probabilistic form. The objective existence of measurement error or uncertainty will lead to the uncertainty of estimated fair value. Therefore, not only to provide the amount of currency of the fair value in the balance, should also require full disclosure of the uncertainty information of fair value to better help users make investment, credit, or similar decision-making.

### *5.4. Perfect information disclosure and regulation mechanism*

Accounting information has the characteristics of private property rights; the disclosure of accounting information will affect the distribution of benefits of different property right subject, therefore, property right subject who have the full accounting information, in order to maximize their own interests, may be have motivation of inadequate disclosure of information, thus information asymmetry between different property right subject of the same enterprise. A very important aspect of market supervision is to solve the problem of information asymmetry, to protect the openness and transparency of the accounting information, to protect the interests of different property right subject. So it should increase its supervision of the CPA profession and listed companies, to establish a regular inspection system, standardize the operation behavior, to ensure the rationality of fair value; increase the penalties of enterprises and related personnel for abuse of the fair value. Finally, should promote, implement the 06 version of the accounting standards, and promote the concept of balance to create a healthy environment for the use and promotion of fair value.

#### *5.5. Improve accountants' professional skills and business literacy*

Input value in the third level of the fair value is the input value of assets or liabilities not based on the available market data, namely unobservable input values, it may reflect the subject's internal assumptions, which means that in case of lack of market participants, allowing the use of the subject's assumptions in pricing the asset or liability. Unobservable input values will be evolved on the basis of all kinds of available best information, and may contain a reporting entity's internal data, the estimate need accounting personnel with high professional quality and professional skills. Compared with other measurement attributes, the confirmation of fair value of the assets or liabilities given accountants greater room for judgment, so professional quality and professional ethics need continuous improvement of the accounting staff, corporate accounting staff should not only master the valuation techniques and has a keen insight into the career, but also truly realistic.

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## **How Chinese government optimize private equity investment environment: overseas experiences and enlightenment**

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### **ABSTRACT**

This paper analyzed the successful experience of foreign government in the development of private equity fund market, then from the angle of legislation environment, financial support, capital market, investment involvement and government supervision, it explored how our government could do to optimize the environment of China's private equity fund market.

Key words : Private equity; Investment environment; Government

### **1. INTRODUCTION**

In recent years, as the bright new financial highlights in global financial markets, private equity funds is playing more and more important role in the national economy. Private equity fund started in the United States, and achieved rapid growth along with the 1990s' great economic development. However, the time of its emergence in China was relatively late, after nearly a decade's development, the domestic private equity market has become increasingly active. But compared with developed countries, private equity market in China is still in its infancy. Throughout developed countries in Europe, the economic boom provides a fertile ground for the private equity market, and the effective functioning of capital markets also provides favorable conditions. The Government has contributed greatly as well. It has played a positive role in promoting the growth of the private equity market, and even directly played the leading role in the private equity investment. This paper studies the foreign government's practices and role in the development of private equity investment market and how to optimize the investment environment to promote private equity investment market.

### **2. PRACTICE AND ROLE OF FOREIGN GOVERNMENT IN THE DEVELOPMENT OF PRIVATE EQUITY INVESTMENT MARKET.**

#### **i. The government builds a legal basis for the development of private equity industry.**

The government is committed to build a legal basis and establish a system of legal norms, duties and obligations for private equity investment industry to regulate the private equity investment operation, protect the interests of investors, and reduce the legal risks of investment. In countries where private equity are well developed, there

are no laws set up specifically for private equity legislation, but generally in the Securities Act, Securities Exchange Act, the Fund law , specialized chapters make clear and specific provisions for the establishment, operation, information disclosure and other issues of private equity. Such as in the United States, the 1933 Securities Act, the 1934 Securities Investment Law, the 1940 Investment Company Act and the Investment Advisers Act, in the Japanese government the 1963 Small Business Investment Act of Japan, 1998 Investment Business limited Partnership Act, the University Technology Transfer Promotion Act", New Business Promotion Law and other legal way to regulate and manage private equity in terms of the establishment of private equity funds, private equity fund manager registration and management, private equity funds exempted from registration conditions, the organizational form of private equity investment and technology transfer. To sort out these legal provisions we find that the government makes relatively high qualification requirements for private equity investors and creates a relatively liberal legal environment for private equity investments. They avoid mandatory intervention, and mainly through market contracts or articles of incorporation to restrict private equity investments.

## **ii. The government provides fiscal and taxation support for private equity investment**

One way of the government to provide preferential fiscal and taxation support for private equity investment is to make government procurement for private equity fund investing company's products, and to provide low-interest loans and loan guarantees for venture capital companies. Western people have a complete government procurement system, and through the government procurement to increase the market demand of the invested enterprise's products, thus indirectly supporting the development of private equity investments. U.S. government has regulations that small business investment companies will get \$4 from the government as low-interest loans for their every \$1 investment. Moreover, Small Business Administration would provide guarantee to lending bank for the high-tech SMEs. Since the 1980s British government has carried on the private equity loan guarantee program.

Another way for the government to provide preferential fiscal and taxation support is to give tax preferences on capital income. In 1978 the U.S. government lowered the tax rate for private equity investment capital income from 49% to 28%, and down to 20% in 1982. Moreover, 60% of private equity investments income would be exempted from tax, and the remaining part would be taxed by half. This move means a lot for a large number of high-tech companies such as Apple, Microsoft and Intel. British government adopted the Venture Capital Trust Act in 1995, which sets down that the dividends and the sale of shares for the venture capital trust fund would be exempted from tax; for the venture capital Trust Fund held by more than five years, 20% of investment would be deducted from personal income tax; Trust investment Law provides that 80% of all private equity funds invested in high-tech enterprises can enjoy tax exemptions to encourage private equity to invest in high-tech industries.

## **iii. The government creates a favorable capital market environment for private equity.**

Private equity investment funds get benefits through selling invested companies' holding shares. If the withdrawal is snagged, profit-making of private equity funds will be affected, and the liquidity and development would neither be guaranteed. Therefore, the withdrawal is a core part for private equity investment and the withdrawal mechanism is a key institutional factor for private equity investment fund to survive and develop. The capital market is the preferred place for private equity

investments to withdraw, and the level of the capital markets will decide the development of private equity market. Developed countries have established a well-developed capital market. The U.S. capital market is divided into different level, among which the fourth level is the private equity market. The second board market in Britain focuses on high-growth market which coincides with the investment orientation of private equity, and the third board is unlisted stock market, whose threshold is low to reduce the risk of private equity, and to ensure the private equity's timely exit. Tokyo Stock Exchange Growth Enterprise Market set up Growth Enterprise Market; Japan Nasdaq market was established in Osaka; local stock market is also open for emerging markets of growing companies in risk. Multi-level capital market provides several withdrawal channels for private equity to facilitate private equity investors to sell their holding corporate shares in time in appropriate trading market for the next round of investment.

#### **iv. The government involves in private equity investment**

There are many ways for the foreign governments to invest in private equity. One way is to directly set up venture capital funds, leading funds or industry investment companies. Through this way, on the one hand, it can attract private capital to go into the private equity market, and guide the private equity market's development; on the other hand, it can implement the government's industrial development policy. Small investment companies set up by the U.S. government in the early development of private equity are in this way. In the early development of private equity market, the Japanese government set up three small and medium-size enterprise venture capital firms, Tokyo, Osaka and Nagoya, to lead the private capital flows as a guide fund for the private equity market. Another way is to invest the government funds in to different private equity funds. This form has the advantages of spreading risk in the second time, professionally manage capital, simply investment decision-making, low investment threshold etc. Fund itself is a portfolio, and if a fund is invested in different funds, it is in the form of a fund's funds. For example, the New Zealand Government handed over their venture capital funds to professional venture capital investment fund to manage the company, and the U.S. government's Asian private equity fund bid for professional investment fund to manage companies which have achieved good results.

#### **v. The government supervises and makes risk prevention for the private equity market.**

There are three modes to supervise and make risk prevention for the private equity market, which will be respectively represented by the American industry self-regulation model, the Japanese government regulation model, and the British industry self-regulation based and supplemented with government regulation model. The U.S. government makes light regulation on the private equity industry, which is supervised mainly by American Venture Capital Association. The association released *American Venture Capital Association trading standards* in 1996 to supervise its members. Since the financial crisis, the U.S. government recognized the necessity to strengthen supervision to the private equity, and then put forward related bills on financial regulatory reform. The Japanese government plays a very important role in the private equity supervision. The Securities Bureau of the Ministry of Finance exercises the right of supervising the private equity industry, and the *Securities Investment Trust Act* as the main supervision rule. The British private equity industry's regulatory body includes the Financial Services Authority and self-regulatory organization- private equity investment fund association. The Financial Services Authority supervises the establishment of private equity fund, and

Fund Association is responsible for business training, policy advocacy, industry research and coordination.

### **3. THE ADVICE FOR CHINESE GOVERNMENT TO OPTIMIZE PRIVATE EQUITY INVESTMENT ENVIRONMENT.**

#### **i. Clarify government' responsibilities in the development of private equity market**

According to previous analysis, during the development process of private equity market, government' obligations should be considered in a broader background besides importing capital. During the primary phase, it is obvious for governments to take a leading role. Private equity market in China is just in this phase and government plays an irreplaceable role in promoting the development of private equity market. Firstly, as the financial innovation, private equity needs governments' promotion, and governments' participation is the practical need to promote financial innovation. Secondly, the government participating in private equity investment plays a good role model, which is useful to lead and drive private capital into private equity market. Finally, since we are in the critical period of industrial upgrading and transformation, governments' participation is beneficial to rationalize industrial investment structure and then promote national economy's development.

#### **ii. Improve the relevant laws and regulations**

Referring to experience overseas, the development of private equity market needs the relevant laws and regulations, and a set of legal support for it is essential. At present, *Securities Act*, *Trust Law* and other laws in china doesn't clarify the meaning of private equity funds, funding sources, organization way and operation mode etc. Meanwhile, there are no provisions to prohibit private equity investment fund, which makes private equity investment funds be the area uncovered by laws. The legal nature of the private trust management and investment management practices is uncertain, and the investors and managers' interests lack of effective legal protection. Currently, based on the existing legal framework, through a variety of legal forms, Chinese government should perfect the specific provisions in the *Company Law*, *Trust Law*, and *Partnership Law* to improve the legal environment of the private equity investment fund. Relevant laws and regulations should be revised to encourage commercial banks, insurance companies, pension funds and other institutional investors to go into private equity funds.

#### **iii. Regularize and improve the supervisory and administrative system of private equity investment market**

At present, the supervision and administration of private equity investment market in our nation is in utter disorder, without not only unified law, but also explicit supervisory and administrative main body. Considering China's national conditions, supervisory status and international experience, it is necessary to establish the combined mode of government administration and industry management legally. First, choose the appropriate regulatory agencies. The situation of divided policies from various sources leads to the supervisory and administrative ineffectiveness to the private equity investment fund. With specific laws and regulations, the supervisory and administrative department must follow the supervisory and administrative scope, procedures, powers, duties and remedies, etc. Then, choose the appropriate regulatory form. The supervision and administration to the private equity investment fund call for the attachment to the important of its comparative advantage, as well as the prudential requirements. Finally, establish a national trade association as soon as possible. The formation of a national trade association is important to

strengthen self-discipline, and assist the Government to manage private equity market.

**iv. The government contributes money to establish the “fund of fund”**

In the early stages of the development of private equity, the government funds played the leading role which has a positive significance to the development of private equity fund market. Currently, fund of our local government boomed so rapidly that the balance of interests between PE and government turns into the most important thing. In fact it is hard to keep the balance, on the one hand, to please the government, and on the other hand, to get the average revenue of the market private equity. Referring to the successful experience overseas, our government should contribute money to establish the “fund of fund” and lead civilian capital to participate in private equity fund market. The basic model is that government funds enter in private equity fund market in forms of holding or participation, not for profit, giving up commercial profit partially or totally to attract professional investment organization and management team to establish a fund together. The fund should be invested in the government’s focusing field or phase.

**v. Build the multi-level market exit channels for private equity.**

Market exit is the key to private equity investments. Establishing multi-level capital market and improving the investment withdrawal mechanism are very significant for the development of the private equity market. The private equity developed slowly at present, and one important reason is that our domestic market exit channels have many limitations. We can learn the experience from America who establishes the OTC market of qualified investors, based on the floor trading market, to transfer the private equity. First, we must clarify and strictly limit the qualified investor's identity in the OTC market. Specifically, we should prohibit non-qualified investors participate in the auction in OTC market in the form of qualified investment group. Second, electronic quotation system should be established in the OTC market's, in which every qualified investor should be allowed to participate in all forms of private equity funds transfer, without the consideration of institutional investor. The listing standard in domestic floor trading market is too uniform and strict. We need to establish multi-level floor trading market, and encourage enterprises to IPO in domestic market.



## **An Analysis on the Corporate Debt Structure in Vehicle Rental Industry** **Wang Wanxin**

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### **ABSTRACT**

Researchers have been investigating on optimal corporate capital structures from debt financing angle. This paper studies such topic from a industry-specific level. The mechanism of high-debt capital structure possessed by vehicle rental industry is explored by focusing on Hertz corp., an international leading player that operates business under high debt ratio and low credit ratings but still with strong financing abilities. Corporate annual reports, especially financial reports are analyzed by Excel VBA programming. Crucial accounts, including vehicle depreciation and debt interest expenses in statements of operation, short- and long-term debt liabilities in balance sheets, and financing cash inflow and outflow, are highlighted to indicate the causal relationships lying inside. Important financial ratios with regarding to debt structure, working capital proportion, cash flow sufficiency, depreciation are calculated to facilitate the analysis. It is found that the debt financing pattern of the company is determined by a mix of factors including business nature, debt maturity management and classification, inter-corporation funding support, industry partnership, cash flow management, capital turnover, and corporate reputation.

Keywords: Corporate capital structure; Debt structure; Vehicle rental industry

### **1. INTRODUCTION**

Corporate debt structure determines to a great extent its capital raising ability by affecting liquidity and credit ratings factors. Lower debt ratios in general means satisfactory business running and high credit ratings, whereas the case seems to fail to hold for vehicle rental industry. The abnormally high debt ratio and low credit ratings make it confusing that how the industry manage to survive and thrive under such "unhealthy" capital structure, finding creditors and investors with no difficulties. Researches in corporate capital structures field have not focused to vehicle rental industry, thus the analyses and explanations of the industry's finance operating principles remains unexplored. This paper gives insights on the mechanism by means of financial report analysis and ratio analysis. Further studies may discuss on topics possibly including the generalization of capital structure assessment model and the evaluation of effectiveness of credit rating systems in terms of different industry natures.

#### **1.1 Hertz: Strong financing abilities under high debt ratio**

Hertz Global Holdings Inc. (Hereinafter referred to as "Hertz", or "the company") is a world leader in vehicle rental business. On its own and through agents and licensees, the company operates some 8,500 rental locations in more than 145 countries worldwide. Its fleet includes approximately 444,000 cars from various automobile brands, including Ford, General Motors, Toyota, etc. Revenues from

vehicle rental business counts for about 85% of its total sales annually. Similar with other industry competitors, Hertz has abnormally high debt ratios. To be specific, the company's debt ratios are 86.89%, 87.79% and 87.36% respectively from year 2009 to 2011. Generally speaking, such debt ratios mean serious default risks which are quite threatening to matured corporations. However, speaking of the vehicle rental industry, such debt situation instead presents a healthy, typical and reasonable business model that companies like Hertz follow. To illustrate, Hertz shows strong performance after recovering from the 2008 global financial crisis (the company's second quarter net income rose by 69% in 2012, a figure much higher than previous expected by analysts), and continues debt financing with new debts issued every year.

## 2. FINANCING MECHANISM ANALYSIS WITH FINANCIAL STATEMENTS REVISITS

The business operation for vehicle rental industry requires that companies own a quite large number of fixed assets, namely vehicles, no matter through direct purchase or lease contracts. Such business nature requires large amount of investment. As an international leader covering over 145 countries, Hertz faces extra costs on business operation and general management across continents, for example, remote vehicle returning transaction, vehicle transportation and inventory management issues.

### 2.1. Industry Operating Nature

The business operation for vehicle rental industry requires that companies own a quite large number of fixed assets, namely vehicles, no matter through direct purchase or lease contracts. Such business nature requires large amount of investment. As an international leader covering over 145 countries, Hertz faces extra costs on business operation and general management across continents, for example, remote vehicle returning transaction, vehicle transportation and inventory management issues. In its financial statement notes, Hertz claims that the company treats depreciation period of its vehicles as very short, ranging from 4 to 26 months for rental cars, and 24 to 108 months for other rental equipment (see **Table 1**). Hertz resells the cars mostly back to manufactures, and the rest to the public through either auction (65%), or its "Rent2Buy" program (9%) offered by the corporation. Such quick turnover of revenue earning assets demands large scale of capital inflows. The large amount of depreciation expense (see **Table 2**) results in much fewer net assets, thus lowering the numerator when calculating debt ratio. Contrast to many electronic industry players like Microsoft that have almost zero debt ratio, vehicle rental industry has its own business nature that requires inevitably large amounts of borrowings. Such feature determines that corporations in vehicle rental industry have to issue more debts than others, thus having relatively higher debt ratios.

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

TABLE 1. DEPRECIATION PERIOD OF HERTZ'S VEHICLES

Revenue Earning Equipment	Depreciation Period
Cars	4-26 months
Other Equipment	24-108 months

TABLE 2. DEPRECIATION PROPORTION TO CORRESPONDING ASSETS

Revenue Earning Equipment, at cost	2011	2010	2009
Cars	9.679	8.435	8.206
Less Accumulated Depreciation	-1.360	-1.120	-1.186
A.D./Assets	0.141	0.142	0.145
Other Equipment	2.830	2.756	2.582
Less Accumulated Depreciation	-1.043	-1.052	-7.480
A.D./Assets	0.369	0.382	0.290
Total Revenue Earning Equipment	10.011	8.934	8.851

## 2.2 Debt Maturity and classification Management

To avoid too large lump-sum principal payment that may cause short-term liquidity problem, the company carefully balances and diversifies its debt maturities with certain methodologies to minimize financing risk. To be specific, the company has decentralized and well distributed debt maturities, among which the furthest extends to January 2028. The company pays off debt principals in relatively small amount regularly every year, and having payment peaks every few years. For example, in 2011, Hertz has a relatively concentrated payment year, for payments for debts (USD 4.99 billions) counts 44% of the total outstanding ones. Such arrangement relieves the cash flow pressure to a certain extent for at least the next five years till 2015 (see **Figure 1** below).

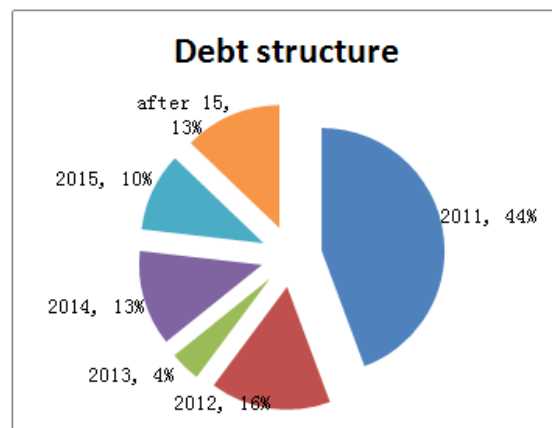


Figure 1. Debt Maturity for Hertz from 2011-2015

As for debt classification and management, it is clearly exhibited in Hertz's balance sheet notes that the company's outstanding debts are divided into two main classes, namely, fleet debt and corporate debt. While corporate debt feeds the company's general operation and administration, fleet debt, which, as indicated by the name, facilitates the corporation especially in vehicle rental programs. The two classes of debts almost separate the debt liabilities in to equal halves, with fleet debt counting around 51.38% of the outstanding totals. Therefore the company actually relieves the investors' concerns by indicating that half of the reason of the high debt ratio is caused by inevitable business operation nature.

## 2.3 Unique cash flow pattern

Hertz unexpectedly faces almost no difficulties in finding creditors, meaning that

the company actually has much less default risk than the debt ratio indicates. Such lowered risk level owes to the company's special cash flow pattern in financing.

**Table 3** is retrieved from the Statement of Cash Flow from 2009 to 2011. It can be found out that proceeds from both issuing debt and payment of debts are in large and approximately equal amounts (Hertz borrows 314 million and pays off 298 million long-term debt in year 2010, for example). Such borrowing and returning pattern guarantees enough working capital for companies to operate business and purchase vehicles. Moreover, the net of proceeds and payments only makes up 5.4% and 4.2% of the total payments in year 2010 and 2009, except for year 2011, within which 44% of the total outstanding debts are paid off intensively. Such cash flow pattern ensures creditors that principals together with interests would be paid back from proceeds of newly issued debts with almost no uncertainty. The unique pattern has become a normal operation model for Hertz. Therefore owing to this special model, the company can easily continue to find creditors to finance themselves, but meanwhile, resulting in high debt ratios.

TABLE 3. HERTZ'S FINANCING CASH FLOW PATTERN

Investing activities	2011	2010	2009
Proceeds (inflows)	3.540	3.137	2.560
Payments (outflows)	-4.99	-2.978	-2.672
Net	-1.452	1.598	-1.112
Net/payments	0.291	0.054	0.042

#### 2.4 Smooth ratio performance

The company retains confidence of creditors and investors through stable financial ratio performance. Table 4 is a summary of several representative ratios of the company over the span of 3 years. As is indicated in the **Table 4** and **Figure 2**, the fluctuations in company debt ratio, cash flow margin ratio, working capital ratio, and operating cash flow ratio are minimal, indicating a settled financing pattern. Acid ratio and current ratio see a increase all in year 2010, because of a raise in the company's fix assets.

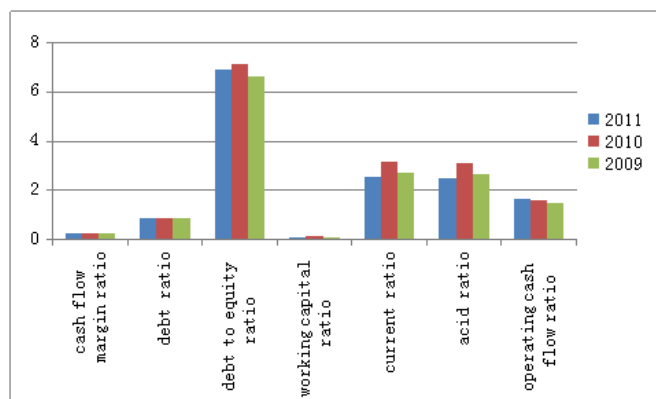
TABLE 4. FINANCIAL RATIO ANALYSIS

Ratio Year	2011	2010	2009	STEDV
Cash Flow Margin Ratio	0.269	0.292	0.238	0.027
Debt Ratio	0.874	0.877	0.869	0.004
Debt to Equity Ratio	6.909	7.132	6.629	0.252
Working Capital Ratio	0.115	0.173	0.122	0.032
Current Ratio	2.539	3.163	2.731	0.320
Acid Ratio	2.475	3.100	2.648	0.323
Operating Cash Flow Ratio	1.687	1.596	1.507	0.090

#### 2.5 Internal and External Financing Support

Hertz was once owned by Ford during 1987 to 2005, and nowadays Hertz Global Holdings Inc. has many subsidiaries such as Hertz Fleet Fundings LLC, Hertz Vehicle Financing LLC, Hertz Funding Corporation and Hertz Investment Ltd. These affiliation companies all support Hertz's financing program to a great extent, raising the company's creditability either directly through debt instruments or indirectly

through reputation influence. Hertz runs its vehicle rental business with many famous vehicle brands. To illustrate, several world famous vehicle manufactures and brands, including Mercedes, Infiniti, Cadillac, Mazda, Volvo, Mercury and Lincoln, are contracted with Hertz for long-term business relationship. Famous airlines, for example, Turkish Airline, partner with Hertz to get specialized airport rental vehicles for frequent air passengers. Those corporations all possess firm reputation in international market. Partnering with them, Hertz delivers a signal to the public that its future is stable and bright enough that it attracts so many global big sharks for long-term cooperation.



**Figure 2. Financial Ratio Fluctuation Analysis**

## 2.6 Reputational Business Image

Hertz, as well as its industry, has been operating business in the unique model for more than a century. Competitive market share and steady growth rate under above business model give companies like Hertz and Avis firm reputation. Correspondingly, credit ratings are not adversely affected by high debt ratio. Meanwhile,

suddenly attempting to improve credit ratings may cause unnecessary speculations among investors that the company is facing financial or operation difficulty that it has to protect investor confidence through raising credit ratings.

## 3. ACKNOWLEDGMENTS

Sincere gratitude is extended to the following people who gave me lot of insights during the research process: Professor W.X. Zhu, who directed me to the field of mathematical economics and gave me inspirations and advice.

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# Affecting Factors on choice of Family financial assets in China's Rural Households\*

Lingjuan Xu, Yan Zhang, Guoli Zhang

**Abstract**—Based on the research status at home and abroad, we designed a questionnaire to find out the affecting factors on choice of family financial assets in China's rural households. In the paper, we take Beijing's rural households as our sample. Though factor analysis and logistic regression, we find that the total income of the family, annual balance and economic expectation have a significant impact on the choice of financial assets in rural households, whereas population, subjective understanding and consumption have little impact. This finding helps to rich the existing studies on financial investment of rural areas, and also has something to do with the development and innovation of rural financial markets.

**Keywords**—Family financial, assets choice, affecting factors, China's rural households

## I. INTRODUCTION

With the improvement of living levels and understanding of financial markets, the demand of financial investment of rural households is also growing. The question of how to keep the value of their money and earn more has been drawing more and more concern. At present, most of the financial assets of China's rural households are deposit, which is quite conservative, and the proportion of financial assets in total assets is comparatively small. All this reflects that the potential of domestic rural financial market is huge. Therefore, to find out the key factors in deciding financial-asset-choosing by rural households has a great influence on rural households' benefit and will help to develop financial investment market and perfect China's rural financial system.

Through filing the studies of foreign scholars, we find there are detailed long-term database of research on family financial assets, and their studies on investment choice are usually in two micro ways. One is to study on the impact of life cycle, economy and population features, the other is to analyze the influence of such factors as attitude toward risk,

investment preference, emotion and confidence. Chinese scholars, on the other hand, study in macro ways with data from statistical yearbooks due to lack of micro data. They might get first-hand figures by field study on family investment within a certain area, or find out the affecting factors on domestic financial investment through comparison with other countries. Only Lian Jianhui(1998) studied on the cause of present rural residents' financial-asset-choosing and its impact on rural economy. Wang Yin(2008), Xing Dawei(2009) took Yangzhou as an example to study rural households' financial-asset-choosing. Wang Yu & Zhou Li(2009) made a comparison between rural households in eastern and western part of China to find the deciding factors of their involvement in financial markets. In summary, the study on affecting factors of rural households' choice in financial-asset is far from perfect, and this need to be discussed.

As China's important financial center, Beijing's economy is growing at a fast speed. Both of Beijing households' life and investment activities have enjoyed steady development. Our study, by questionnaire with Beijing rural households, is to some extent representative.

## II. DESIGN OF QUESTIONNAIRE AND COLLECTION OF DATA

### A. Design of Questionnaire and Scoring

The questionnaire has four parts altogether. Part A is about the basic information of Beijing rural households, aiming to collect basic information such as the population characteristics of investment decision-makers. Part B is about the asset allocation situation in rural households. Part C is about the decision-makers' risk preference and attitudes toward risks, designed to learn their understanding of risks. Part D is about their willingness to invest, economic expectations and confidence of society, aiming to find out the probability of investing of rural households. The scoring system is designed with mainly two parts, to score the rationality index of rural family structure and

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probability index of investment, respectively.

## B. Data Collection and Inspection

### a. Data Collection

To avoid the problem of freely-filling, we designed polygraph questions and verification questions as a trap to exclude invalid questionnaires. And those with part of the figures missing are also considered as invalid. If less than 3 non-numerical answers are missing, we fill them with average figures, with more than 3 non-numerical answers missing are considered as invalid questionnaires. Statistics show that we reclaimed 251 questionnaires out of 300 sent out, the recovery rate is 83.7%. After excluding 30 invalid questionnaires, we collect 221 effective samples altogether with the effective rate of recovery 88%

### b. Reliability Analysis

Cronbach coefficient evaluates the reliability of data through internal consistency, which is mainly applied to evaluate the reliability of opinions and attitudes. The coefficient is generally considered to be no smaller than 0.5 and once above 0.8, it means the result is very reliable. This paper mainly uses reliability coefficient to measure the reliability of households' basic information, asset structure and investment decision-makers' understanding of risks. With the help of SPSS, we find the coefficient to be as high as 0.750, which shows that the result is quite reliable to meet the need of our study.

## III. AN EMPIRICAL ANALYSIS

### A. Analysis on rationality of family structure and probability of investment

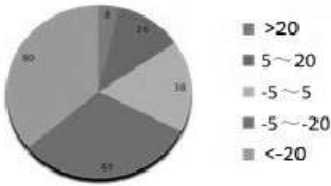


Figure 1 Distribution of rationality of family structure

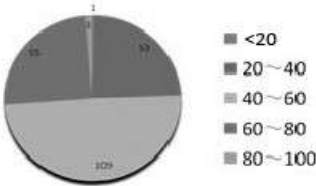


Figure 2 Distribution of probability of family investment

We can see from the data that the number of households

whose rationality coefficients vary from -5 to 5 is 183, occupying 82.8% of the total, which means that most rural households in Beijing don't have a rational structure. Among those, the number of whose coefficient under -5 is 149, taking 67.4%, showing that most Beijing rural households can bear some risk yet too conservative to be willing to make risky financial investments (Figure 1). From Figure 2, the number of rural households who get less than 60 points is 167, and the proportion of 75.56%, which reflects their unwillingness to invest and shows their low confidence in the future market. Therefore, even Beijing is an important financial center in China, its rural residents are still conservative to invest in the financial market and the family structure is not rational.

### B. Selection of Variables in Empirical Analysis

On the basis of the questionnaire, we selected and sorted variables in empirical analysis, among which A, C and D are affecting variables, B is financial product investment rate variable and E is comprehensive inspection variable (see in Table 1).

### C. Construction of Model

Because of the dummy variables, traditional method of regression may lead to serious errors and is not able to analyze the affecting factors in rural households' choice of financial assets. Therefore we adopt Logistic Model instead. We assume that the choice of financial assets is affected by such factors as the gender, marriage, education, monthly income, risk preference of investment decision-maker, this can be expressed as  $y_i = (x_1 + x_2 + \dots + x_i) + \varepsilon$ , where  $y_i$  is

the investment activity,  $x_i$  is one of the affecting factors,

$\varepsilon$  is random disturbance item. The selection of variables is shown in Table 1.

We set  $F_t (t=1,2,\dots,9)$  as the probability of rural households' investment in foreign exchange, bank and other financial products, bonds, fund and other major financial products as well as the probability of comprehensive indicator inspection. The value of those probabilities varies from 0 to 1. So we can get the following Logistic Model:

$$\log it(F_t) = \beta_0 + \sum_i^{11} \beta_i A_i + \sum_j^2 \beta_j C_j + \sum_n^3 \beta_n D_n$$

$$\begin{cases} t = 1, 2, \dots, 9; & i = 1, 2, \dots, 11; \\ j = 1, 2; & n = 1, 2, 3; \end{cases}$$



Table 2 Selection of Variables

Classification	Name	Description	
A: Basic Information	A1 Gender	Gender of investment decision-maker. Male: 1; Female: 0	
	A2 Marriage	Marriage of investment decision-maker. Married: 1; Unmarried: 0; Divorced: -1	
	A3 Age	Age of investment decision-maker.	
	A4 Education	Education of investment decision-maker.	
	A5 Monthly Income	Monthly income level of rural family.	
	A6 Annual Balance	Annual balance of rural family.	
	A7 Population	Population of rural family.	
	A8 Debt Proportion	Debt level of rural family.	
	A9 Monthly Consumption	Monthly consumption of rural family.	
	A10 Total Asset	Total asset of rural family.	
	A11 Risk-bearing Capacity	Investment decision-maker's risk-bearing capacity.	
C: Understanding of Risks	C1 Risk Preference	Investment decision-maker's risk preference.	
	C2 Risk appetite	Investment decision-maker's willingness to bear risks.	
D: Probability of investment	D1 Willingness to Invest	Investment decision-maker's willingness to invest.	
	D2 Economic Expectation	Investment decision-maker's economic expectation.	
	D3 Social Confidence	Investment decision-maker's confidence in the society.	
B: Structure Of Asset	B1 Currency	Foreign Exchange Buy or foreign exchange not. Buy: 1; Not buy: 0	
	B2 Securities	Bank and other financial products	Buy financial products or not. Buy: 1; Not buy: 0
		Bonds (including government bonds, corporate bonds, etc.)	Buy securities or not. Buy: 1; Not buy: 0
		Fund	Buy fund or not. Buy: 1; Not buy: 0
	B3 Physical Asset	Stocks	Buy stocks or not. Buy: 1; Not buy: 0
		Gold	Buy gold or not. Buy: 1; Not buy: 0
B4 Insurance Asset	Insurance Asset	Buy insurance or not. Buy: 1; Not buy: 0	
E: Comprehensive Indicator	E1 Rationality of Family Structure	Score between -5~5: 1; Others: 0	
	E2 Probability of investment	Score above 70: 1; Others: 0	

#### D. Empirical Analysis

Because there is multicollinearity among different variables, and the Logistic Model is quite sensitive to it, when the relations of variables are high, even a small change in sample may cause great change in the evaluation of coefficients. Therefore, to minimize the effect of multicollinearity, we sort the variables first by their correlations, and use common factor as a replacement. After that, we use Logistic Model to analyze the affecting factors in financial-asset-choosing of rural households in Beijing.

##### a. Factor Analysis

We have 16 affecting factors to go through the KMO test and Bartlett sphericity test, i.e. gender, marriage, age, education, monthly income, annual balance, population, debt proportion, consumption, total asset, risk preference,

willingness to invest, risk-bearing capacity, risk appetite and social confidence. The result shows KMO test value is 0.509, Bartlett sphericity test value is 1538.596, and the KMO test value is comparatively smaller. We add the variables one by one through pairwise comparisons, and find that when excluding population and debt, the KMO test value goes as high as 0.713 while Bartlett sphericity test value is 1055.718, with the significant probability approximately 0, making the result suitable for factor analysis.

We use Quartimax, Varimax and Max balance methods to analyze the factors by pair, and decide to adopt Quartimax at last. With the help of SPSS, we get 5 common factors altogether, and the cumulative contribution rate is 64.267%. It can be seen from the variance ratio of common

factors that almost every factor has a common variance above 0.6, most of which is higher than 0.7, or even 0.9, except that of gender and willingness to invest is approximately 0.5. This means that those 5 factors can

appropriately reflect most of the variants. Through factor rotation, we get the correlation coefficient of every variant and the common factors, see in Table 2:

**Table 3 Factor Rotation Matrix**

	Factor				
	1	2	3	4	5
A1 Gender	-.010	-.139	.463	-.240	-.447
A2 Marriage	-.010	-.811	-.043	.006	.007
A3 Age	.021	-.874	-.101	.000	.032
A4 Education	.507	.709	.002	.018	-.041
A5 Monthly Income	.820	.109	-.007	.051	.052
A6 Balance	.783	.048	-.003	.192	.134
A9 Consumption	-.002	-.042	.114	-.106	.908
A10 Total Asset	.616	.088	.031	-.029	-.067
A11 Risk-bearing Capacity	.474	.804	.029	.097	.117
C1 Risk Preference	.203	.120	.730	.209	.158
C2 Risk Appetite	.018	.071	.791	-.143	.005
D1 Willingness to invest	.433	.211	.435	.325	-.044
D2 Economic Exception	.659	-.010	.130	-.189	-.080
D3 Social Confidence	.056	.039	-.015	.896	-.040

From the matrix we can see that Factor 1 dominate rural households' monthly income, annual balance, total asset and economic expectation, i.e. the economic condition of investment decision-makers, so we give it the name Economic Factor (Fac1).

Factor 2 dominates marriage situation, age, education and risk-bearing capacity, mainly describes the population characteristics, and we name it Population Characteristics Factor (Fac2).

Factor 3 dominates such variants as gender, risk preference, willingness to invest and risk appetite, all of which reflect the subjective understanding of investment decision-makers, and therefore get the name Subjective Understanding Factor (Fac3). We put gender and risk preference together because of the high relationship between those two variants.

Factor 4 dominates social confidence situation, mainly refers to investment decision-makers' confidence in financial intermediaries, media, government regulation departments, etc. We call it Confidence Factor (Fac4).

Factor 5 dominates rural households' consumption, reflects the consuming capacity of the decision-makers, named as Consumption Factor (Fac5).

We calculate the points of each factor with SPSS, and then conduct Logistic Regression with the new model.

$$\log it(F_i) = \beta_0 + \sum_i^5 \beta_i Fac_i$$

Among them,  $F_i (i=1,2,\dots,9)$  refers to the probability of the purchase of foreign exchange, bank and other financial products, bonds, fund and other major financial products, as well as the probability of comprehensive indicator inspection.

#### b. Logistic Regression and Analysis

We use above-mentioned 5 factors as independent variants to conduct Logistic regression from 7 aspects as foreign exchange, bank and other financial products, bonds, fund, etc. and also from 2 comprehensive indicator aspects. Handle the 221 samples with SPSS, we find that 9 models have the confidence level under 0.05, Model 1 to Model 6, Model 8 and Model 9 passed the Systematic Coefficient Test, Hosmer and Lemeshow Test and Maximum Likelihood Logarithmic Test significantly. The lowest prediction accuracy is 75.1%, and that of the others are above 80%. Model 1, Model3 and Model 9 have the prediction accuracy as high as 90%. The result shows that all the 8 models have good effects and can appropriately describe and fit the overall sample. Model 7 (Insurance Asset-Gold), though passed the Maximum Likelihood

Logarithmic Test, failed the Coefficient Test, Hosmer and Lemeshow Test and the prediction accuracy is only 57.9%,

being incapable of describing the samples, so we exclude Model 7. The result of regression is shown in Table 3.

**Table 4 Logistic Regression Result (Model 7 Excluded)**

	Currency						Securities								
	Foreign Exchange (Model 1)			Financial Products (Model 2)			Bonds (Model 3)			Fund (Model 4)			Stocks (Model 5)		
	B	S.E.	Sig.	B	S.E.	Sig.	B	S.E.	Sig.	B	S.E.	Sig.	B	S.E.	Sig.
FAC1	.858	.222	.000	.930	.199	.000	.691	.202	.001	.587	.176	.001	.913	.207	.000
FAC2	.199	.279	.476	.096	.211	.648	.416	.262	.111	.372	.201	.065	.266	.234	.256
FAC3	-.160	.278	.564	.565	.209	.007	.076	.263	.772	.347	.197	.078	.334	.227	.142
FAC4	.278	.264	.293	.379	.216	.080	1.261	.282	.000	.571	.204	.005	.176	.235	.455
FAC5	.138	.228	.544	-.032	.246	.897	.256	.210	.223	.078	.187	.676	.042	.213	.845
Constant	-2.830	.321	.000	-2.019	.239	.000	-2.885	.360	.000	-1.919	.225	.000	-2.342	.266	.000

	Fixed Asset			Comprehensive Indicator					
	Gold (Model 6)			Family Structure Rationality (Model 8)			Investment Probability (Model 9)		
	B	S.E.	Sig.	B	S.E.	Sig.	B	S.E.	Sig.
FAC1	.390	.153	.011	-.446	.245	.069	1.630	.351	.000
FAC2	.267	.160	.096	-.763	.220	.001	.502	.354	.156
FAC3	-.271	.165	.101	.610	.197	.002	1.024	.389	.009
FAC4	.522	.163	.001	-.209	.199	.293	2.508	.556	.000
FAC5	.442	.282	.117	-.137	.191	.475	-3.269	1.068	.002
Constant	-.988	.165	.000	-1.923	.236	.000	-5.142	.898	.000

(1)Affecting factors of financial products investment

From the above table we can see that under the confidence level of 0.05, the Economic Factor (Fac1) of all 6 models is significant and positive. It means that rural households are usually influenced by economic condition and their expectations of future macro economy, the better their economic condition and the higher of their economic expectation is, the more willing of those households to invest in financial market. This is in accordance with the findings of Lu Jiachang and Gu Jinhong in their studies on urban households' financial-asset-choosing, showing that economic condition has a definite impact on the involvement of Chinese households in the financial market. It also reflects from some aspect that it is the poor economic development level that keeps family income at a low level and hinders the development of domestic financial assets. In the table, Model 1 and Model 2 is the analysis of affecting factors of currency products investment. Rural households are mostly influenced by Economic Factor in deciding whether or not to invest in foreign exchange. The

better the economic condition is, the more likely of them to invest. Model 2 shows that when choosing financial products, households are also positively affected by subjective understanding factor (Fac3), that is, when the decision-makers are willing to take risks, they tend to invest in bank and other financial products.

Model 3, Model 4 and Model 5 analyze the affecting factors in securities investment. Under the confidence level of 0.05, economic factor has a significant impact in these three models, showing that when faced with risky financial products, economic support plays a very important role. In the meantime, when deciding to invest in less risky securities like bonds (Model 3) and fund (Model 4), households are also positively affected by Confidence Factor (Fac4), indicating that the more confidence they have in financial intermediaries, media and government regulation departments, the more likely of them to invest. It can be concluded that we should strengthen the construction of financial intermediaries, promote financial knowledge and accelerate the law-making progress to enhance rural

households' confidence in intermediaries, media and government regulation departments. Model 5 shows that when deciding to invest in stock market, which is comparatively more risky, economic condition has a dominate impact.

Model 6 analyze the affecting factor of investing in fixed asset-gold. We can see from the result that, as same as Model 3 and Model 4, it is also positively decided by Economic Factor and Confidence Factor, while the impact of Confidence Factor is comparatively larger. It means that the more confidence they have in financial intermediaries, media and government regulation departments, and the better economic condition is, the more likely of rural households to invest in gold.

Through a comparison of the above-mentioned 6 models, the impact of Population Characteristics Factor (Fac2), Subjective Understanding Factor (Fac3), and Consumption Factor (Fac5) is small in Beijing rural households' investment decision-making. Compared with urban households, rural households' income, annual balance and economic expectations are lower, so they have less money to invest. Therefore, factors like income, balance and economic expectation have a definite impact on their decisions. Besides, the low confidence in financial intermediaries, government regulatory departments stops, the influence of population characteristics and risk awareness cannot be reflected.

#### (2) Analysis of comprehensive indicators

From Model 8, we find that the rationality of Beijing rural family structure has something to do with Population Characteristics Factor (Fac2) and Subjective Understanding Factor (Fac3), which is in comply with reality. They both reflect that the characteristics of investment decision-makers, rural households' asset structure and the balance point of risk and return have a great relation with investors' age, education and their awareness of risk.

Model 9 gives a general analysis of the major financial products invested by China's rural households. The probability of their involvement in financial market has little to do with population characteristics (Fac2), but is greatly affected by economic condition (Fac1), subjective understanding (Fac3), social confidence (Fac4), and consumption (Fac5). Result also shows that objective factors as the impact of economic condition, confidence in investment environment, necessary domestic consumption have larger impact than subjective understanding factors

like population characteristics and risk awareness. Model 9 gets almost similar result as Model 1 to Model 6, indicating that when objective factors are comparatively unfavorable to China's rural households, the impact of subjective factors are not significant.

#### IV. SOLUTIONS AND SUGGESTIONS TO PROMOTE RURAL HOUSEHOLDS' FINANCIAL INVESTMENT

Based on the above analysis, we can make the following solutions and suggestions to further promote rural households' financial investment.

Firstly, since Economic Factor has a significant impact, it's important to enhance rural households' involvement in financial market. On micro scope, we should try to increase the wealth of rural households, so that they have better economic expectations and become more self-motivated in the market.

Secondly, research shows that Confidence Factor also has an influence, especially in deciding whether or not to invest in stocks, fund and gold. In order to increase the market involvement, government regulatory departments should equip themselves with better regulations and standards; increase the transparency of information, so as to raise rural households' confidence to take part in financial market.

Thirdly, through the analysis of comprehensive indicator, at present, objective factors have larger impact than subjective factors on rural households' investment decision-making. Therefore, we should first work hard to improve objective investment environment, such as domestic economic condition, the managerial level of financial intermediaries and government regulatory departments, enabling rural households to invest. Secondly, because of the significant relationship between domestic asset structure rationality, population characteristics and subjective understanding, the financial intermediaries in China should strengthen publicity and education on family finance and investment, improve their awareness of risks, make asset structure of China's rural households more reasonable, thereby enabling rural households to participate in a healthy financial market.

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# Economics

10:00-12:00, December 15, 2012 (Meeting Room 3)

**1658: Modeling Volatility of Stock Index Futures Based on Threshold  
Multiplicative Error Model**

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## Modeling Volatility of Stock Index Futures Based on Threshold Multiplicative Error Model

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### ABSTRACT

Research on non-linear models has been an important branch of financial time series analysis since most of time series had the features of non-linearity. The threshold models were widely used as a common form to describe non-linearity. This paper focuses on a contract of stock index futures in China, modeling realized volatility of it with threshold multiplicative error model.

Keywords: non-linearity, threshold multiplicative error model (TMEM), stock index futures, realized volatility (RV)

### 1 INTRODUCTION OF THRESHOD MODELS

THE models of non-linear time series have been the focus of academic research since 1990's. Threshold model is an important part of non-linear models. It was put forward by Tong(1980)<sup>[1]</sup>. It focused on the "variable" as the turning point of structure. This kind of model uses the form which is similar to piecewise function to improving the linear approximation. It can clearly describe the mechanism of time series jumps from one to another.

The common threshold models include threshold autoregressive model (TAR), threshold generalized autoregressive conditional heteroskedasticity model (TGARCH).

For example, this is a simple AR(1) model:

$$\begin{cases} x_t = a_1 x_{t-1} + \varepsilon_t, & \text{when } x_{t-1} \leq 0 \\ x_t = a_2 x_{t-1} + \varepsilon_t, & \text{when } x_{t-1} > 0 \end{cases} \quad (1)$$

$\varepsilon_t \sim N(0,1)$ , threshold variable is  $x_{t-1}$ , lag is 1 and threshold value is 0.

Threshold generalized autoregressive conditional heteroskedasticity model (TGARCH) was put forward by Zakoian(1994)<sup>[2]</sup>. It is widely used for describe the asymmetric volatility in financial market. Its conditional variance usually with the form of

$$\sigma^2 = \omega + \sum_{i=1}^q \alpha_i \varepsilon_{t-i}^2 + \gamma \varepsilon_{t-1}^2 D_{t-1} + \sum_{j=1}^p \beta_j \sigma_{t-j}^2 \quad (2)$$

$$D_{t-1} \text{ is a nominal variable, } D_{t-1} = \begin{cases} 1, \varepsilon_{t-1} < 0 \\ 0, \varepsilon_{t-1} \geq 0 \end{cases} \quad (3)$$

$\varepsilon_t < 0$  stands for the negatively external effect while  $\varepsilon_t \geq 0$  stands for the positive one.  $\gamma \neq 0$  reflects the degree and difference of different kinds of effect imposed on volatility. The effect of negatively external force was stronger than positively external force which is imposed on the price's volatility of financial products when  $\gamma > 0$ , and vice versa.

## 2 MODELING THRESHOLD MULTIPLICATIVE ERROR MODEL

First review the background information of MEM before research the threshold multiplicative error model.

Multiplicative error model was put forward by Engle (2002) [3]. Its basic form is:

$$v_t | I_{t-1} = \mu_t \varepsilon_t, \varepsilon_t \propto i.i.d. p(\varepsilon; \pi), t = 1, 2, \dots, T$$

$$\mu_t = \omega + \sum_{i=1}^q \alpha_i v_{t-i} + \sum_{j=1}^p \beta_j \mu_{t-j} \quad (4)$$

$v_t$  is a non-negative variable,  $I_{t-1}$  stands for the information set of  $\tau_{t-1}$ ,  $E(v_t | I_{t-1}) = \mu_t$ ,  $\alpha_j, \beta_j \geq 0, \omega > 0, \sum_{j=1}^{\max(p,q)} (\alpha_j + \beta_j) \leq 1$ ,  $p(\varepsilon; \pi)$  is the probability density function of  $\varepsilon_t$ .

The main idea of modeling threshold Multiplicative Error Model (TMEM) learned from the method of Threshold Autoregressive Conditional Duration Model (TACD). TACD was put forward by Zhang (1999) [4].

Definition 2.1

$$R_j \in [r_{j-1}, r_j), j = 1, 2, \dots, J \quad (5)$$

$J$  is a positive integer,  $-\infty = r_0 < r_1 < \dots < r_J = +\infty$ ,  $r_j$  is threshold value. The threshold variable

$$Z_i = h(x_i, \dots, x_1; y_i, \dots, y_1) \quad (6)$$

$\{y_i\}$  and  $\{x_i\}$  are related variables.

The relationship of  $\psi_i$ ,  $\{x_j | j < i\}$  and  $\{\psi_j | j < i\}$  can be described by

$$\psi_i = \omega^{(j)} + \sum_{m=1}^p \alpha_m^{(j)} x_{i-m} + \sum_{m=1}^q \beta_m^{(j)} \psi_{i-m}, Z_{i-1} \in R_j \quad (7)$$



Next is the part of Modeling TMEM according to the method of TACD. The threshold variable is  $RV_{t-1}$  which RV stands for "Realized Volatility", the threshold space is  $R_j$ . The basic form of TMEM is

$$\mu_i = \omega^{(j)} + \sum_{m=1}^p \alpha_m^{(j)} RV_{i-m} + \sum_{m=1}^q \beta_m^{(j)} \mu_{i-m}, RV_{i-1} \in R_j \quad (8)$$

Two-system TMEM model divides RV into 2 parts: "higher volatility" and "lower volatility". This model is written to TMEM (2, p, q) for short. If threshold value is  $\tau$ , the form of TMEM (2, p, q) is

$$\mu_t = \begin{cases} \omega^{(1)} + \sum_{i=1}^q \alpha_i^{(1)} RV_{t-i} + \sum_{j=1}^p \beta_j^{(1)} \mu_{t-j}, & \text{if } RV_{t-1} \geq \tau \\ \omega^{(2)} + \sum_{i=1}^q \alpha_i^{(2)} RV_{t-i} + \sum_{j=1}^p \beta_j^{(2)} \mu_{t-j}, & \text{if } RV_{t-1} < \tau \end{cases} \quad (9)$$

Two-system TMEM can describe the non-linearity of RV better and reflect more information on microstructure of market by dividing the volatility of financial assets into 2 parts.

### 3.TEXT FOR NON-LINEARITY

Threshold model is a form of non-linear models, it is only proper to nonlinear time series. So it is necessary to test whether the data is nonlinear before setting up threshold model.

There are 2 kinds of methods which usually used in testing non-linearity: Meeleod Test and BDS Test.

#### 3.1 Meeleod Test

This method came from the research of Granger and Anderson.

Granger, Anderson(1978)<sup>[5]</sup> researched models of bilinear time series. They used ARMA models to analyzing the data. In their opinion, the time series can be described by nonlinear models if the terms of square of residuals were auto-correlated.

The following translated the result above into mathematical formulas.

The time series were described by ARMA (p, q), the auto-correlated coefficient of  $i$  th order of  $\varepsilon_t$  is

$$\rho_i = \frac{\text{COV}(\varepsilon_t, \varepsilon_{t-i})}{\text{var}(\varepsilon_t)}, i = 1, 2, \dots \quad (10)$$

The estimate value of auto-correlated coefficient of  $i$ th order of  $\varepsilon_t$  is:

$$\hat{\rho}_i = \frac{\sum_{t=i+1}^T (\varepsilon_t - \bar{\varepsilon})(\varepsilon_{t-i} - \bar{\varepsilon})}{\sum_{t=1}^T (\varepsilon_t - \bar{\varepsilon})^2} \quad (11)$$

$\varepsilon_t$  is the  $t$  th term in residuals and  $\bar{\varepsilon}$  is the arithmetic mean of residuals.

Ljung-Box Q-statistics

$$Q_{LB}(m) = T(T+2) \sum_{i=1}^m \frac{\hat{\rho}_i^2}{T-i} \quad (12)$$

In the null hypothesis of all auto-correlated coefficients of residuals were zero, Ljung-Box Q-statistics  $\sim \chi^2(i)$ .

Mecleod and Li (1983)<sup>[6]</sup> extended Ljung-Box Q-statistics using the square terms of residuals with ARMA(p, q). Mecleod-Li Q-statistics is

$$Q_{ML}(m) = T(T+2) \sum_{i=1}^m \frac{\hat{\rho}_i^2(\varepsilon_t^2)}{T-i} \quad (13)$$

In the null hypothesis of all auto-correlated coefficients of residuals were zero, Ljung-Box Q-statistics  $\sim \chi^2(m)$ .

### 3.2 BDS Test

The BDS Test was put forward by Broock (1996)<sup>[7]</sup>. It is used for testing the independence of time series. The main idea of this method is: the residuals which were individual and with identical distribution were landing on an interval. The individual terms with non-linearity cause the structural effect of "accumulation" easier.

The BDS Test uses the method of "related integration". The length of interval  $\varepsilon$  should be defined before test.

If  $y_s$  and  $y_t$  stands for the observation of s and t, the pair of observation can be defined by

$$\{(y_s, y_t), (y_{s+1}, y_{t+1}), \dots, (y_{s+m}, y_{t+m})\} \quad (14)$$

m is the "Embedded Interval", the probability of each pair of observation meets the  $\varepsilon$  is defined by  $c_m(\varepsilon)$ . In the null hypothesis of Individual and identical distribution,

$$c_m(\varepsilon) = \prod_{i=1}^m c_i(\varepsilon) = [c_1(\varepsilon)]^m \quad (15)$$

If there are n samples of observation

$$c_{m,n}(\varepsilon) = \frac{2}{(n-m+1)(n-m)} \sum_{s=1}^{n-m+1} \sum_{t=s+1}^{n-m+1} \sum_{j=0}^{m-1} I_{\varepsilon}(y_{s+j}, y_{t+j}) \quad (16)$$

$I_\varepsilon$  is indicated function:

$$I_\varepsilon(x, y) = \begin{cases} 1, & |x - y| \leq \varepsilon \\ 0, & \text{others} \end{cases} \quad (17)$$

$c_{m,n}$  can also be defined by "terms of related integration. In this method, BDS statistics

$$BDS(m, n, \varepsilon) = \frac{c_{m,n}(\varepsilon) - [c_{1,n-m+1}(\varepsilon)]^m}{\sigma_{m,n}(\varepsilon) / \sqrt{n-m+1}} \quad (18)$$

$$\sigma_{m,n}^2(\varepsilon) = 4 \left\{ k^m + 2 \sum_{j=1}^{m-1} k^{m-j} c_1^{2j} + (m-1)^2 c_1^{2m} - m^2 k c_1^{2m-2} \right\} \quad (19)$$

$$k_n(\varepsilon) = \frac{2}{n(n-1)(n-2)} \sum_{t=1}^n \sum_{s=t+1}^n \sum_{r=s+1}^n \{ I_\varepsilon(y_t, y_s) I_\varepsilon(y_s, y_r) + I_\varepsilon(y_t, y_r) I_\varepsilon(y_r, y_s) + I_\varepsilon(y_s, y_t) I_\varepsilon(y_t, y_r) \} \quad (20)$$

In the null hypothesis " $y_t$  is individual and with identical distribution", BDS statistics is approximate to a standard-normal distribution:  $BDS(n, m, \varepsilon) \rightarrow N(0,1)$ .

If  $c_{m,n}(\varepsilon) - [c_{1,n-m+1}(\varepsilon)]^m > 0$ , it rejects the null hypothesis above. In BDS Test, choosing proper  $\varepsilon$  and  $m$  is important. In Scheinkman and LeBaron (1989)<sup>[8]</sup>, if  $\varepsilon$  is too small, it may cause the acceptance of null hypothesis; if  $\varepsilon$  is too large, this may cause the risk of excessively higher estimation to data. Hsieh (1989)<sup>[9]</sup> advised  $m$  should be chosen from 2-10.

#### 4. THE METHOD OF RECOGNITION OF THRESHOLD VALUE

The threshold value usually is unknown when setting up the model. It always need to set by researchers. Chan(1993)<sup>[10]</sup> put forward a simple method to getting the threshold value.

Assume the threshold variable is  $RV_{t-1}$ .

Rearrange the RV with an ascending order:  $RV^1 < RV^2 < RV^3 < \dots < RV^T$

Exclude the top 15% and bottom 15% of the data which ensures the proper number of observation listed on the both sides of threshold value.

For each  $RV^j$ , set  $\tau = RV^j$  and estimate this threshold model, getting the sum of square of the residuals.

Find the minimum value of sum of square of the residuals, its corresponding RV is the threshold value of the model.

## 5. EMPIRICAL ANALYSIS

### 5.1 Data Description

The sample came from a contract of stock index futures market of China It ranged from Apr.16, 2010-Aug 23, 2011 which involved in 330 trading day. The analysis aims at the daily realized volatility of IF01, we compute it with the data of 5-minute index price. Table 1 shows the statistical result of 330 daily RV.

Table 1: Statistical result of daily RV of IF01

Maximum	0.000649
Minimum	0.00000851
Mean	0.0000911
Std.Dev	0.0000832
Skewness	2.544017
Kurtosis	12.32425
Jarque-Bera	1551.408
Probability	0.000000

### 5.2 Test of Non-linearity

The following uses BDS Test to testing whether the daily RV of IF01 has the nonlinear feature. The test uses the series of residuals obtained from modeling MEM with daily RV. This part takes 2 common distribution of stochastic error terms: Gamma distribution and standard Weibull distribution.

#### 5.2.1 Modeling MEM with 2 Different Distributions

$$(1) \varepsilon_t \sim \text{Gamma}(\lambda, \gamma)$$

When  $X \sim \text{Gamma}(\lambda, \gamma)$ , the density function is:

$$X \sim f(x|\lambda, \gamma) = \begin{cases} \frac{\gamma^\lambda}{\Gamma(\lambda)} x^{\lambda-1} e^{-\gamma x}, & x > 0 \\ 0, & x \leq 0 \end{cases} \quad (21)$$

$\lambda, \gamma > 0$ ,  $\lambda$  is "shape parameter" and  $\gamma$  is "size parameter",  $\Gamma(\bullet)$  is Gamma

function. The mean and variance of  $\text{Gamma}(\lambda, \gamma)$  are  $E(X) = \frac{\lambda}{\gamma}$ ,  $Var(X) = \frac{\lambda}{\gamma^2}$ ,

because the mean of stochastic error term  $\varepsilon_t$  is 1, so  $\lambda = \gamma$ . The density function of  $\varepsilon_t$ :

$$\varepsilon_t | F_{t-1} \sim \text{Gamma}(\lambda, \lambda), f(\varepsilon_t | F_{t-1}) = \frac{\lambda^\lambda}{\Gamma(\lambda)} \varepsilon_t^{\lambda-1} e^{-\lambda \varepsilon_t}, \varepsilon_t > 0 \quad (22)$$

From the linearity of Gamma distribution, if  $X \sim \text{Gamma}(\lambda, \gamma)$ ,  $a > 0$ , then

$$Y = aX \sim \text{Gamma}\left(\lambda, \frac{\gamma}{a}\right), \text{ so } x_t | F_{t-1} \sim \text{Gamma}\left(\lambda, \frac{\lambda}{\mu_t}\right), \text{ the density function of } x_t \text{ is}$$

$$f(x_t | F_{t-1}) = \frac{\lambda^\lambda}{\Gamma(\lambda)} x_t^{\lambda-1} \mu_t^{-\lambda} e^{-\lambda \frac{x_t}{\mu_t}} (x_t \geq 0) \quad (23)$$

In this situation, the result of modeling is:

$$RV_t = \mu_t \varepsilon_t, \varepsilon_t \sim \text{Gamma}(1.5341, 1.5341)[16.34341](0.0000)$$

$$\mu_t = 0.9877RV_{t-1} + 0.2236\mu_{t-1}$$

$$[15.71216](0.0000)[11.12122](0.0000)$$

The number in brackets is t-statistics of each coefficient, the number in parentheses is the p-value of each coefficient. Since  $t(330) < t(100) = 1.660$ , every coefficient is significant. The likelihood value of this model is 2732.6005.

$\varepsilon_t \sim \text{std. Weibull}$

Assume  $X \sim W(\lambda, \gamma)$ ,  $\lambda, \gamma > 0$ , the density function is:

$$X \sim f(x|\lambda, \gamma) = \begin{cases} \frac{\lambda}{\gamma^\lambda} x^{\lambda-1} e^{-\left(\frac{x}{\gamma}\right)^\lambda}, & x \geq 0 \\ 0, & x < 0 \end{cases} \quad (24)$$

For meeting the demand of  $E(X)=1$  in MEM, We choose Standard Weibull distribution, then the size parameter  $\gamma$  disappeared, the density function is:

$$\varepsilon_t \sim f(x|\lambda, \gamma) = \begin{cases} \lambda \left[\Gamma\left(1 + \frac{1}{\lambda}\right)\right]^\lambda x^{\lambda-1} e^{-[\Gamma(1+\frac{1}{\lambda})x]^\lambda}, & x > 0 \\ 0, & x < 0 \end{cases} \quad (25)$$

The corresponding density function of  $x_t$  is:

$$f(x_t|\lambda) = \lambda \left[\Gamma\left(1 + \frac{1}{\lambda}\right)\right]^\lambda \frac{x_t^{\lambda-1}}{\mu_t^\lambda} \exp\left\{-\left[\Gamma\left(1 + \frac{1}{\lambda}\right)\right]^\lambda \frac{x_t^\lambda}{\mu_t^\lambda}\right\} (x \geq 0) \quad (26)$$

In this situation, the result of modeling is:

$$RV_t = \mu_t \varepsilon_t, \varepsilon_t \sim W(1.8358)[31.85587](0.0000)$$

$$\mu_t = 0.9271RV_{t-1} + 0.2617\mu_{t-1}$$

$$[14.05512](0.0000)[11.57221](0.0000)$$

All the coefficients is significant, too. The likelihood value of this model is 2732.6005.

### 5.2.2 Test for Nonlinearity

The following uses BDS Test to testing the nonlinearity. Table 2 shows the result of nonlinearity test which obtained the terms of square of residuals from 2 models above.

Table 2: Result of BDS Test

Distribution of $\varepsilon_t$	BDS-statistics	Std.Dev	Z-value	Probability
Gamma	0.017211	0.003633	4.198435	0.0000
Standard Weibull	0.018166	0.004205	5.113297	0.0000

Table 2 shows the result of BDS Test. Both BDS-statistics is bigger than 0 obviously, so it rejects the null hypothesis. The residuals is individual and meets the standard normal distribution. In other words, RV in this sample has apparent features of non-linearity.

### 5.3 Recognition of Threshold Value

Part 4 demonstrate the main process to recognizing the threshold value. This part chooses MEM (2,1,1) as the form of TMEM. It also take 2 distribution of  $\varepsilon_t$  which are mentioned above. Fig. 1 and Fig. 2 show the series of square of residuals in 2 MEM (2,1,1) .

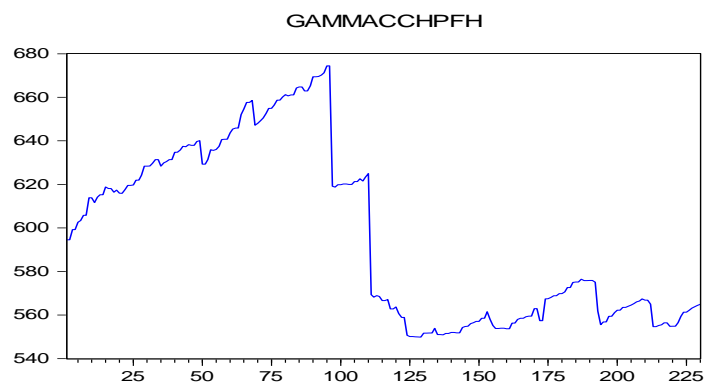


Fig. 1: Square of residuals in Gamma-TMEM (2,1,1)

We obtained the threshold value: 0.0000715631.

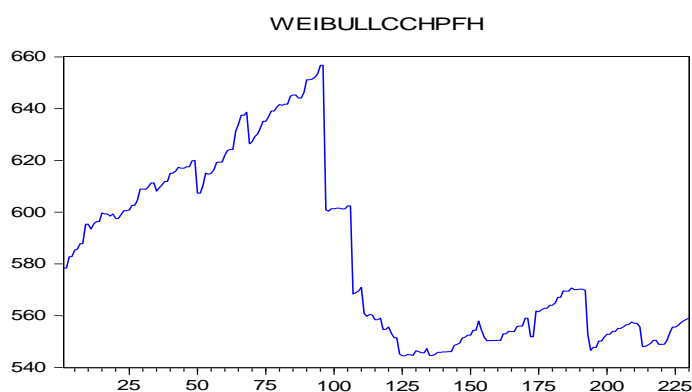


Fig. 2: Square of residuals in Weibull-TMEM(2,1,1)

We obtained the threshold value: 0.0000683586.

### 5.4 Set up TMEM with RV

This part focus on Modeling TMEM with threshold value obtained from 5.3,  $RV_{t-1}$  is the threshold variable.

$$(1) \varepsilon_t \sim \text{Gamma}(\lambda, \lambda)$$

In this situation, the form of TMEM (2,1,1) is ( $\tau = 0.0000715631$ )

$$\mu_t = \begin{cases} 0.3394RV_{t-1} + 0.7486\mu_{t-1}, \varepsilon_{t,1} \sim \text{Gamma}(1.9533, 1.9533), & \text{if } RV_{t-1} \leq \tau \\ [2.80712](0.0050)[11.11759](0.0000)[15.63286](0.0000) \\ 0.8366RV_{t-1}, \varepsilon_{t,2} \sim \text{Gamma}(2.0873, 2.0873), & \text{if } RV_{t-1} > \tau \\ [19.13282](0.0000)[8.80447](0.0000) \end{cases} \quad (27)$$

$\varepsilon_t \sim \text{Std. Weibull}$

In this situation, the form of TMEM (2,1,1) is ( $\tau = 0.0000683586$ )

$$\mu_t = \begin{cases} 0.2924RV_{t-1} + 0.7771\mu_{t-1}, \varepsilon_{t,1} \sim W(1.7206), & \text{if } RV_{t-1} \leq \tau \\ [2.95211](0.0095)[12.12106](0.0000)[19.72359](0.0000) \\ 0.8407RV_{t-1}, \varepsilon_{t,2} \sim W(1.7298), & \text{if } RV_{t-1} > \tau \\ [16.59725](0.0000)[20.16055](0.0000) \end{cases} \quad (28)$$

The coefficient which is not significant is excluded in the process of model estimation, according to the method of Tsay (2005)[11].  $\varepsilon_{t,1}$ ,  $\varepsilon_{t,2}$  stands for the stochastic error terms in "higher volatility" and "lower volatility". All the coefficients are significant. The likelihood value of 2 TMEM (2,1,1) models are 2785.4170 and 2773.9567.

Fig.3-6 shows the residuals terms in "higher volatility" and "lower volatility" when stochastic error term meets Gamma distribution and standard Weibull distribution.

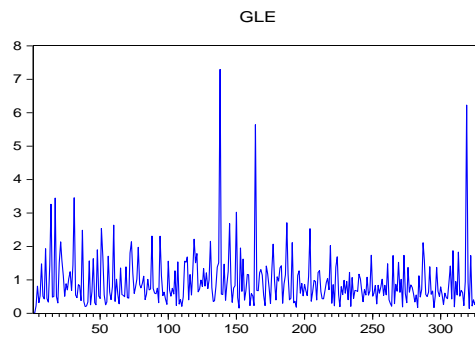


Fig. 3: Residual terms in lower volatility of Gamma- TMEM (2, 1, 1)

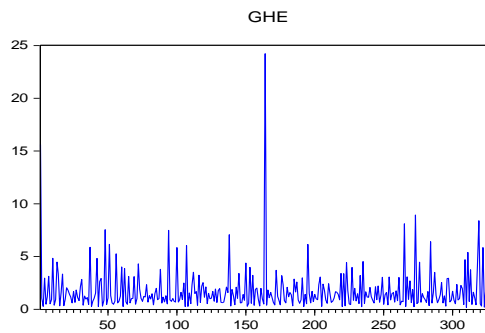


Fig. 4: Residual terms in higher volatility of Gamma- TMEM (2, 1, 1)

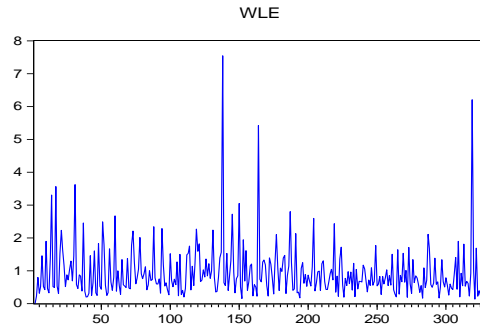


Fig. 5: Residual terms in lower volatility of Weibull-TMEM (2, 1, 1)

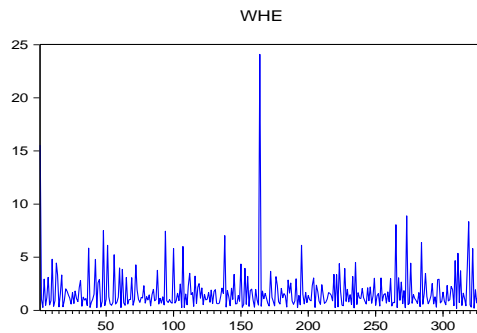


Fig. 6: Residual terms in higher volatility of Weibull –TMEM (2, 1, 1)

From Fig. 3-6, for both distributions of stochastic error terms, the volatility in “higher volatility” system was greater than that in "lower volatility" system. In other words, the feature of volatility was more apparent in "higher system". It demonstrate that TMEM (2,1,1) can describe the volatility of IF01 better in this 2-system mechanism.

## 6.CONCLUSIONS

Threshold models is an important kind of nonlinear models, it focused on the "variable" as the turning point of structure. This kind of model used the form which is similar to piecewise function to improving the linear approximation. It can clearly describe the mechanism of time series jumped from one to another. Use the switch of the mechanism of threshold models can describe the features of volatility of financial market with high frequency data.

This paper introduces the information of threshold models first, then set up TMEM with the idea of TACD. It also demonstrates the method of recognition of threshold value. In empirical analysis, we take 5-minutes price index from a contract of stock index futures in China as sample, computing daily "Realized Volatility" in 330 trading day. Then we model TMEM (2,1,1) to describe the features of volatility of this contract.

## 7.ACKNOWLEDGEMENT

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# **Entrepreneurship**

**10:00-12:00, December 15, 2012 (Meeting Room 3)**

## **1685: The Role of Entrepreneurial Creativity in Entrepreneurial Processes**

*Chiayu Tu*

*Ming Chuan University*

*Suechin Yang*

*Tamkang University*

## The Role of Entrepreneurial Creativity in Entrepreneurial Processes

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### ABSTRACT

This study discusses how entrepreneurial creativity process among entrepreneurial processes in high-technology startups. This study focuses on three contextual-level factors which are suggested by previous studies and theories as important determinants of entrepreneurial creativity at individual-level – social network, expertise, and positive affect under two entrepreneurial processes stages (initiation stage and implementation stage). This research aims to contribute to this literature by focusing on two issues that are relatively neglected: (1) the entrepreneurial creativity definition and individual-level relationship under different entrepreneurial process stages; and (2) the industrial-level moderator how to influence on these causality under different entrepreneurial process stages. The former addresses entrepreneurial creativity change by different entrepreneurial process, while the latter specifies industrial-level conditions under which moderation effect can be expected. Our research provides the foundation for straightforward but powerful managerial and theoretical guidelines without the possibly misleading oversimplifications and without compromising the richness of the contextual setting.

Keywords: Entrepreneurial Creativity, Entrepreneurial Processes Stages, High Technology Startups

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# **Business Management**

**10:00-12:00, December 16, 2012 (Meeting Room 3)**

**1691: Research on the Evolution Mechanism of Industry Cluster Based on the Knowledge Diffusions between Enterprises and Institutions**

*Ping Hu*

*Xi'an Jiaotong University*

*Yang Jiao*

*Xi'an Jiaotong University*

*Yanping Lu*

*Xi'an Jiaotong University*

**1763: Pricing Strategy of Service Provider in Cloud Computing**

*Victor B. Kreng*

*National Cheng Kung University*

*Hsing-me Chen*

*National Cheng Kung University*

*I-chin Su*

*National Cheng Kung University*

**1774: Discussion on the Free Port Strategy of China**

*Jiuling Li*

*Shanghai Customs College*

**1751: Construction of Chinese Listed Companies Governance Risk and Its Oversight Mechanisms**

*Shi Hong*

*Business School of Hohai University*

*Qi Linkai*

*Business School of Hohai University*

**Research on the Evolution Mechanism of Industry Cluster Based on  
the Knowledge Diffusions between Enterprises and Institutions  
-----Taking YRD as an Example**

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**ABSTRACT**

According to the corresponding secondary data of Year 2000-2009 in Yangtze River Delta (YRD) Region's information service (IS) industrial cluster, the study constructed both enterprise and institution networks based on affiliation network and constructed the relationship between the two networks based on knowledge diffusions between "enterprises-institutions". The paper analyzed the network structures of seven cities' sub-clusters in YRD region's IS industry cluster and studied the evolution mechanism of industry cluster based on the knowledge diffusions between enterprises and institutions. Several conclusions were drawn. The IS industrial cluster in YRD formed the development structural feature with Shanghai, Hangzhou and Nanjing as leaders, Suzhou, Wuxi, Changzhou and Ningbo as followers. Knowledge diffusions between institutions and enterprises occurred across regions in growing stage. Knowledge spread from central cities to nearby cities.

Keywords: Industry Cluster, Affiliation Network, Knowledge Diffusions, Network Visualization

**1. INTRODUCTION**

Port <sup>[1]</sup> first proposed the concept of Industry Cluster. As an important form of space industrial organization, Industry Cluster is an effective way to promote the industrial development and improve the competitiveness. The Industry Cluster mentioned in this paper is the latter one. That is, it includes enterprises, colleges, research institutions, governments, intermediaries and so on. Information Service Industry has become a strategic industry in developed countries and regions. The research on Industry Cluster of Information Service Industry is helpful to formulate relevant policies. This gives guidance to the development of Industry Cluster and accelerates the growth of the region's economy. In this paper, Industry Cluster is defined as a set of corporations, which provide information product, information technology knowledge and relevant public institutions.

There are five clusters in China's Information Service Industry. They are located in Pearl River Delta Region, Yangtze River Delta Region, Bohai Rim Region, Northeast Region and Midwest Region. Among these, the Yangtze River Delta Region, with a huge development potential, gives a unique Industry Cluster development

mode which is suitable to the Region itself. And the Yangtze River Delta Region has a huge positive effect on the development and integration of the Information Service Industry to the nearby areas. In the research, because of the proximity, strong economy, good policy surroundings, advanced technology, rich human resources and important software parks, the paper picked up the seven cities, *Shanghai, Nanjing, Wuxi, Suzhou, Changzhou, Hangzhou and Ningbo*, as representatives of the Yangtze River Delta Region.

## 2. Reviews of Related Researches

### 2.1 Researches on the Network of Industry Cluster

Social Network is a set of social actors and their relationships. These actors have contacts or interactions<sup>[2]</sup>, which embodies the social structure property. Hakansson<sup>[3]</sup> believed network has three basic elements: actors, the happening of events and resources. Industry Cluster has these elements, so it is reasonable to regard Industry Cluster as network, which means Industry Cluster Network will form later.

The previous researches on Industry Cluster mainly focused on the effect of cluster innovation ability caused by enterprises network feature or network feature<sup>[4, 5]</sup>. However, this paper focuses on the evolution mechanism of network. The evolution mechanism of network is a discipline, which needs following the formation and development of network. In this type of researches, Davis<sup>[6]</sup> concluded four types of network formation mechanisms. That is, Homogeneity, reciprocity, transitivity, and repeated connection. Barabasi<sup>[7]</sup> proposed two kinds of evolution mechanism of network. The first one is to introduce new nodes to promote the evolution of network. Another one is that nodes tend to connect with those having better communication channels. As a result, most researches about the evolution mechanism of cluster network are from the perspective of the relationship between enterprises. However, this paper is to study the evolution of cluster network from the perspective of Knowledge Diffusions between enterprises and institutions in cluster. The concept of Knowledge Diffusions will be discussed in the following paper.

The previous researches about Industry Cluster from the perspective of network have meanings. However, there exist some shortages as well. First, most of these researches are based on the cross-sectional data got by empirical researches to do further analysis. It is a kind of research, which relies on static research. However, the cluster network in real world is a dynamic one. It is difficult to get dynamic network data by empirical researches. Second, most researches are based on enterprises self-centeredness in clusters. In relatively small researches of overall network, some foreign researchers begin to use secondary data from patents, projects and so on to establish enterprise network and study its overall structure and evolution<sup>[8, 9]</sup>, but the network is based on the direct cooperation between enterprises. Because of the low level of information publicity, it is difficult to gain the direct relationship between enterprises through secondary data.

Based on the above considerations, this paper introduces the concept of "Affiliation Network<sup>[9]</sup>". It is a special kind of two-mode network and can be generalized as an affiliation of "actor-event". Two one-mode networks, "actor-actor" network and "event-event" network, derived from it. Because of the differences of the establishment of affiliation network relationship, the derivable one-mode networks can be divided into two types. The first type of one-mode network derives from affiliation network, which is established by the direct affiliation between actor and event. And the typical respective is Interlocking directorates<sup>[10]</sup>. The other type of

one-mode network derives from affiliation network, which established by the indirect affiliation between actor and event through a third party as a media, like Stelle's <sup>[11]</sup> research that "enterprise-enterprise" one-mode network derives from "company-member-industry association" affiliation network. The network established in this paper belongs to the latter one. It used secondary data to establish affiliation network and then formed the "enterprise-enterprise" one-mode network and "institution-institution" one-mode network.

## 2.2 Researches on Knowledge Diffusions

Knowledge Diffusions mean that technology knowledge information transmits from the source of knowledge to the receiver through time and space, and it makes knowledge shared among different individuals <sup>[12]</sup>. In this paper, Knowledge Diffusions can be regarded at different levels, including the diffusion in industry and the diffusion in geographical scope. The knowledge diffusion in industry means that relevant technology knowledge spreads in different institutions in the industry cluster. The knowledge diffusion in geographical scope means that knowledge spreads among different clusters, especially to the nearby areas affected by central areas.

Rogers <sup>[13]</sup> believed that Knowledge Diffusions is a special way of communication. New ideas or views may spread with communication. Through Knowledge Diffusions, new knowledge is created in the end and the stock of knowledge in network is increased. Therefore, Knowledge Diffusions is the foundation and core of innovation of industrial clusters and regional economic development. If an industry cluster or a region does not have an ability of innovation Knowledge Diffusions, it may be eliminated in the fierce competition. Lucas Bretschger <sup>[14]</sup> pointed out that a region's economy depends largely on the diffusion and accumulation of knowledge. In addition, he analyzes the scale effect of Knowledge Diffusions in internal region and external region. Xie Rongping and others <sup>[15]</sup> believed that Knowledge Diffusions make Industry get rid of restrains of traditional resources and capital and promote cluster's core competitiveness. They studied the way of knowledge diffusions in external and internal enterprises. Knowledge Diffusions become a part of innovation strategy behavior in many Industry Clusters, especially those in high-tech Industry Cluster. So, the effect of Knowledge Diffusions cannot be ignored in the evolution of network.

The study found it that knowledge is regional to some extent, and is affected by spatial distance. Keller <sup>[16]</sup> found that Knowledge Diffusions become weaker with the increasing of geographical distance through empirical researches in five countries. Researchers also found the effect of government, colleges and organizations in cluster knowledge diffusions and the accumulation of knowledge. Public organizations offered innovation factors in regional cooperation <sup>[17]</sup>: i) public organizations produced and accumulated the foundational technology knowledge; ii) public organizations shared knowledge with members in clusters or out of clusters and increased the stock of regional knowledge; iii) public organizations cultivated high-tech talents and help the region stay at a high level of high tech study ability. The effect of these colleges in cluster knowledge diffusions is the mechanism of the evolution of cluster network. Therefore, knowledge diffusions play an important role in the evolution of cluster network.

First, the paper established the "enterprise-enterprise" one-mode network and the "institution-institution" one-mode network as foundations. Then the paper established the connections between the two networks based on the relationship of knowledge diffusions of "enterprise-institution" and analyzed the evolution mechanism of

industry cluster from the perspective of the two networks' knowledge diffusions.

### **3. CONSTRUCTIONS OF NETWORK AND STUDY METHODS**

#### **3.1 The Construction of Network**

The knots in cluster networks are mainly enterprises, colleges, research institutions, local governments and intermediary service institutions. They are independent and associated. Enterprises are the core in cluster network, but colleges, research institutions, government organizations and intermediary institutions are supportive institutions in a cluster network. In this paper, cluster network knots are divided into two types: core institutions (enterprises) and supportive institutions (institutions). In the paper, the network, which is consisted of enterprises and regards them as knots, is called enterprise network. And the network which is consisted of institutions and regards them as knots is called institutions network.

##### **1) The Construction of Enterprise Network**

Construction of enterprise network means the construction of enterprises' connections in industry cluster. The information service products produced by information service enterprises are object-oriented. That is, those products serve certain type of customers. This characteristic makes industry enterprises' clients tend to be certain groups in national economy industry. Enterprises who own clients belonging to the same industry have peer relationships, which could be cooperation, competitiveness, potential cooperation or competitiveness. Taking information service products as intermediaries, there is an indirect affiliation between enterprises and national economy industry from the perspective of affiliation network.

As is shown in figure 1 a), information service product P1 produced by enterprise E1 and information service product P2 produced by enterprise E2 can be used in specific national economy industry L. E1 and E2 affiliate to L by taking products from enterprises as bridges. "Enterprise-Industry" affiliation network is constructed on the theory above. In this paper the research object of enterprise network is "enterprise-enterprise" one-mode network derived from affiliation network. The network knots are information service enterprises in Yangtze River Delta Region information service industry cluster. The network connections are the relationship of "cooperation and competitiveness" between companies in the same industry.

##### **2) The Construction of Institutions network**

The construction of institutions network means the construction of the connections between different institutions in industry cluster. Information technology knowledge produced or conveyed by institutions in industry cluster is also object-oriented. Besides it serves for specific field (in this paper, the field can be replaced by industry). Colleges and research institutions mainly create technology information. In China, governments and intermediaries take part in the innovation activities of science research institutions at times. This creates information technology knowledge as well. Because of creating information technology knowledge serving the same industry, institutions construct the relationship of cooperation, which can promote cluster innovation of these institutions. Taking information service products as intermediaries, enterprises and national economy industry form an indirect affiliation in the sense of network from the perspective of affiliation network.

As is shown in figure 1 b), information technology knowledge K1 created by organization O1 and information technology knowledge K2 created by organization O2 can be used in specific national economy industry L. K1 and E2 affiliate to L by



taking the knowledge from organizations as bridges. “Institution-Industry” affiliation network is constructed on the theory above. In this paper the research object of institution network is “institution-institution” one-mode network derived from affiliation network. The network knots are public institutions in Yangtze River Delta Region information service industry cluster. The network connections are the relationship of “cooperation” between institutions in the same industry.

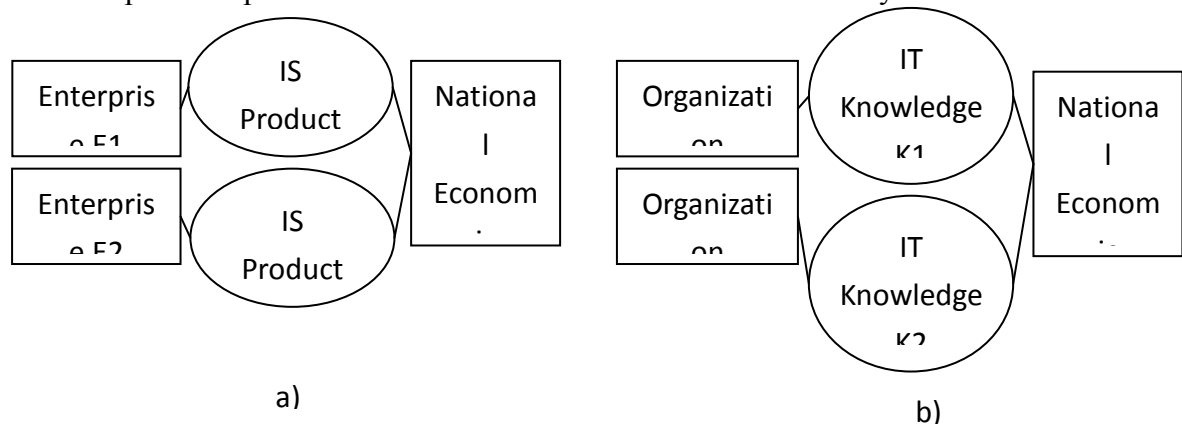


Fig. 1: The Relationship of Enterprises/Institutions of Affiliated Industry

### 3) The Construction of the Relationship between Two Networks

The relationship of knots in enterprise network is “cooperation and competitiveness”. However, the relationship of knots in institution network is “cooperation”. So the knots in two different networks can’t be studied in the same network. But there exists the relationship of “cooperation” between enterprises and institutions in cluster. Institutions in institution network provide guarantees for the well operation of enterprise network by independent or cooperative way. In addition, this makes different kinds of resources flow in cluster network. The resources mentioned in the paper are mainly knowledge resource. In industry cluster network, colleges and science research institutions are producers of knowledge. Enterprises are users of knowledge. Governments, intermediaries and others provide information, capital and policies for knowledge diffusions. Knowledge diffusions are the key for the creation of knowledge from colleges and science research institutions and the application of knowledge from enterprises to be a virtuous cycle <sup>[18]</sup>. Therefore, knowledge diffusions give help for the construction of the relationship of two networks.

In a word, enterprise network and institution network build “cooperation bridges” by different ways from the perspective of knowledge diffusions. The organizations in institutions cooperating with enterprises are colleges and science research institutions. This paper divides the cooperation bridges between the two networks into “direct cooperation ties” and “potential cooperation ties”. As is shown in figure 2, “Direct cooperation tie” refers to the “real cooperation” between institutions and enterprises. And it’s the main bridge. It includes joint labs established by enterprises and institutions, patent cooperation, derivatives enterprises of colleges, research and production cooperation, joint training and others. Although the result of cooperation is knowledge flows from colleges and science research institutions to enterprises, this relationship is two-way from the perspective of cooperation. So in this paper, the cooperation mentioned above is regarded as undirected real relationship. That is “direct cooperation ties”.

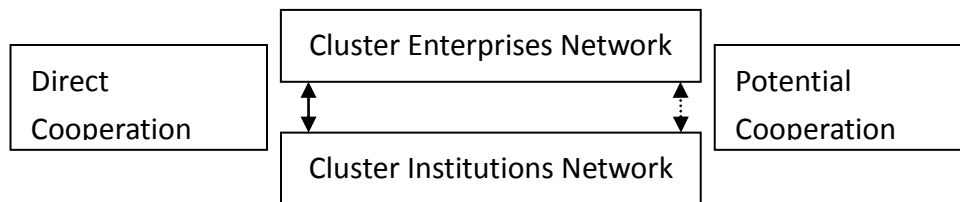


Fig. 2: Relationships Between Two Networks

“Potential cooperation ties” refers to the “virtual cooperation” between institutions and enterprises. And it is the potential cooperation existing in a special method and the auxiliary bridge connecting two networks. There are many manifestations. Like institutions support the development of enterprises by fund, enterprise send technology needs to institutions, and enterprises enjoy the preferential policies when entering colleges Technology Park. Enterprises send some needs to governments departments and government departments formulate and promulgate relevant policies based on it. Enterprises publish technology needs, technology transfer and other information through intermediaries. The cooperation is mutual-way. The paper regarded the cooperation as undirected virtual relationship. That is potential cooperation tie.

### 3.2 Network Visualization

Network Visualization is an effective way to describe network information. There are many ways to describe network information, like tree diagram, matrix and so on [10]. But most visualization figures use dots and lines to describe the information. In traditional visualization methods, a knot refers to an actor and the line linking two knots refers to the connection between two actors [10]. Network visualization can show important network structures, but traditional visualization images become inevitably crowded when the scale of network is large. So it is hard to understand the structure of network within the scope of cognitive. Cluster Graph is proposed as a special visualization way to overcome the flaw. In this method, a knot represents a type of actor. The lines linking knots refer to the connection between different actors. This method cannot only reduce the complexity of visualization images, but also it can make reasonable explanations to the research. Researchers proposed different methods to construct Clustered Graph [19, 20]. Brandes and others [20] put forward a way which can get visualization image when the cluster knots are given.

This paper first learns from the research of Brandes and others [20]. It improves the construction of Clustered Graphs based on the real situations. It shows each of the seven cities’ structure and evolution of enterprise network and institution network in Yangtze River Delta Region. It uses cluster analysis to further analyze the classification structure of the cities. Then it uses traditional visualization method based on knowledge diffusions which can express the evolution of the two networks in the same city and chooses typical relationship of “cooperation” between institutions and enterprises to refine the knowledge diffusions mechanism. Finally, it uses the cooperation between institutions and enterprises to research the knowledge diffusions trend between different cities. And it uses clustered graph and traditional visualization method based on knowledge diffusions to show the evolution of two networks between different cities. The following is the description of the construction method of clustered graph in this paper.

First, define the knots in cluster graph. Assume the original network is  $G = (V, E)$ . Set  $V$  has  $n$  knots.  $E$  is the set including all the connections. In reconstructed clustered graph, set  $V$  is divided into  $k$  subsets. That is,  $k$  types of actors. The connections in set  $E$

can be divided into two types: the connections in the same actor and the connections in different actors. In this paper, cluster network's enterprises and institutions in the same city's information service industry belongs to the same type of actor. So there are at most 7 types of actors in a clustered graph.

Second, define the connections between knots. Assume there are two types of actors:  $A \subseteq V$  and  $B \subseteq V$ . So the connection number between two types of knots is  $n(A, B) = |\{(a, b) \in E; a \in A, b \in B\}|$ . In this paper the index which is used to show the relationship of closeness between two types of knots is  $\omega(A, B) = n(A, B) / \sqrt{|A| \cdot |B|}$ . The index refers to the average connections between enterprises and institutions in clusters of two different cities.

Third, make the final visualization forms of clustered graph. In this paper, the locating of the knots is based on the real geographical location. Every type of knots is drew a circle and the size of each circle is proportional to the scale of each city's scale of cluster network. The color of each circle is grey and color depth is proportional to the density of each city's cluster network. The paper uses 50% grey to show the color of the lines between knots and the degree of thickness is proportional to  $\omega(V_i, V_j)$ . This paper uses Pajek software programming to generate the clustered graph.

### 3.3 Collection and Dealt of Data

Given the great development of software and information outsourcing industry in information service industry, the paper collected the information of seven cities' enterprises and institutions in information service industry by searching the database called "Computer Software Registration Notice" from National Intellectual Property Protection Center. The information includes the name of enterprise or institution, the name of the computer software applying for registration, applicable national economic industries and registration time.

When choosing samples, the research first deleted the enterprises not belonging to information service industry based on registered business scope in each city's Trade and Industry Bureau website and deleted enterprises without effective information. It also deleted institutions having nothing to do information service. Second, because the premise of choosing research subjects in the paper is enterprise or institution should serve a specific industry, there only exist enterprises or institutions serving a specific industry in the paper. After selecting above, there are 6226 enterprises and institutions (6107 enterprises and 119 institutions) in Yangtze River Delta Region's seven cities by 2009. It coded the enterprises and institutions above according to *the national economy industry code list for computer software* regulating by government.

According to the analysis of subjects and the regulation time and content of relevant policies in Yangtze River Delta Region, the paper divides the development of information service industry in Yangtze River Delta Region into three stages: embryonic stage, cultivating stage and growing stage. The numbers of enterprises and institutions are shown in table 1. Based on the numbers above, the paper constructed each stage's cluster enterprises network and institutions network.

Table 1: The Amount of Each City/Stage Enterprises/Institutions about IS Industry in YRD Region

	Shanghai	Nanjing	Suzhou	Wuxi	Changzhou	Hangzhou	Ningbo	The Total in YRD
Embryonic Stage	376/9	130/6	44/0	20/0	18/0	111/2	4/0	703/17
Cultivating Stage	1672/33	457/19	151/2	71/1	54/0	550/8	54/3	3009/66
Growing Stage	1921/35	634/23	280/6	182/3	135/5	623/16	136/6	3991/94
The Total Number	3139/45	977/31	391/8	245/3	186/5	1004/19	165/8	6107/119

In this paper, the data of constructing the connections between two networks is from the official websites of every institution (most are colleges and science research institutions). The connection between every institution and every enterprise mainly includes the technology requirement information, the research and production information, the projects cooperation information and the virtual or real cooperation information. According to the database called *Computer Software Copyright Registration Announcement*, this research searched the information of patent cooperation between institutions and enterprises. In addition, the information provided partial information for the construction of the relationship between two networks. The research got the relationship database connecting the two networks based on the arrangement of the connections between “institutions and enterprises”.

#### 4. The Analysis of Knowledge Diffusions Mechanism in Industry Cluster Network

##### 4.1 Basic Situations of Knowledge Diffusions

In this sector, the research selected the method of Correspondence analysis to study knowledge diffusions between different cities from the perspective of the cooperation between institutions and enterprises. The research used Chi-square distance in correspondence analysis. The result is shown in table 2, figure 3.

##### 1) The Embryonic Stage

As is shown in table 2, the two corresponding dimensions respectively explained 52.8% and 47.2% of the total information. And the two dimensions together explained the total information. As is shown in figure 3 a), there are institutions in Shanghai, Nanjing and Hangzhou cooperating with enterprises in the stage. Meanwhile, enterprises in Shanghai, Nanjing, Hangzhou, Suzhou and Changzhou cooperated with institutions. The enterprises in Shanghai tent to cooperate with institutions in Shanghai. The enterprises in Suzhou and Nanjing tent to cooperate with institutions in Nanjing. The enterprises in Hangzhou and Changzhou tent to cooperate with institutions in Hangzhou. Knowledge diffusions between institutions and enterprises occurred in Shanghai, Nanjing and Hangzhou in the specific stage.

##### 2) The Cultivating Stage

As is shown in table 2, the two corresponding dimensions respectively explained 62.7% and 37.3% of the total information. The two dimensions together explained the total information. As is shown in figure 3 b), there were institutions in Shanghai, Nanjing and Hangzhou cooperating with enterprises in the stage. Meanwhile, enterprises in Shanghai, Nanjing, Hangzhou, Suzhou, Wuxi and Changzhou cooperated with institutions. The enterprises in Shanghai tent to cooperate with

institutions in Shanghai. The enterprises in Nanjing tend to cooperate with institutions in Nanjing. The enterprises in Hangzhou tend to cooperate with institutions in Hangzhou. The enterprises in Wuxi, Changzhou and Suzhou had a close relationship with the institutions in Nanjing. Knowledge diffusions between institutions and enterprises occurred within provinces. Knowledge tend to occur in a specified range.

### 3) The Growing Stage

As is shown in table 2, the two corresponding dimensions explained 32.7% and 25.2% of the total amount of information. And the two dimensions together explained 57.9% of the total information. This was just over the half. This indirectly reflected that the cooperation between institutions and enterprises in each city is good. Enterprises in one city cooperated with institutions in other cities. Meanwhile, institutions in one city cooperated with enterprises in other cities.

As is shown in figure 3 c), institutions and enterprises in seven cities had cooperation with enterprises in the stage. The enterprises in Hangzhou tend to cooperate with institutions in Hangzhou. The enterprises in Ningbo tend to cooperate with institutions in Ningbo. The enterprises in Wuxi tend to cooperate with institutions in Wuxi. The enterprises in Shanghai tend to cooperate with institutions in Shanghai. The enterprises in Suzhou tend to cooperate with institutions in Suzhou, Changzhou and Shanghai. Besides, the distance between enterprises in Changzhou and institutions in Shanghai, Nanjing and Hangzhou is almost the same. The study showed that Shanghai was the center in YRD in IS industry cluster. In a word, knowledge diffusions between institutions and enterprises occurred between different cities. Knowledge occurred not only within a specified range, but also within different regions.

Table 2: Several Statistical Indexes Corresponding Analysis of Enterprises and Institutions in Seven Cities

Stages	The characteristic roots of the two-dimensional	The corresponding explanation proportion	Cultivation
The Embryonic stage	0.665	0.528	0.528
	0.594	0.472	1.000
The Cultivating Stage	0.331	0.627	0.627
	0.198	0.373	1.000
The Growing Stage	0.731	0.327	0.327
	0.565	0.252	0.579

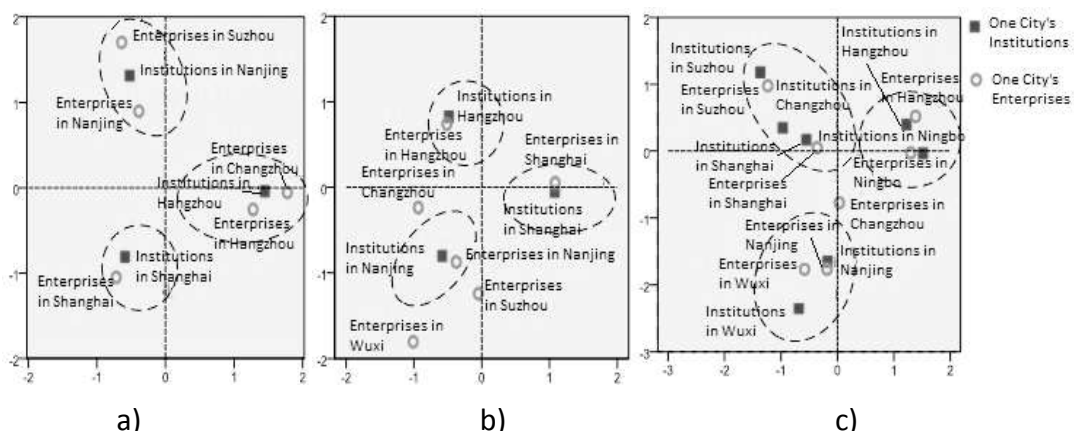


Fig. 3: The Corresponding Analysis of Cities Institutions and Enterprises in Stages

From the above, knowledge diffusions between institutions and enterprises in YRD different cities developed from within cities to across regions stage by stage. Knowledge spread from center cities to surrounding cities gradually. Knowledge diffusions effect could accelerate the development of surrounding regions and promote the innovation the whole industry cluster in YRD.

#### 4.2 Knowledge Diffusions Mechanism – Taking Growing Stage as an Example

From the above, there was cooperation between enterprises and institutions crossing different regions in cluster in growing stage. This could accelerate the spread of knowledge across regions. As shown in figure 4, the figure used NetDraw software to visualize the relationship between enterprises and institutions in growing stage. The method of visualization combines construction method of clustered graph and traditional visualization method. In this paper, it focused on the relationship between two networks.

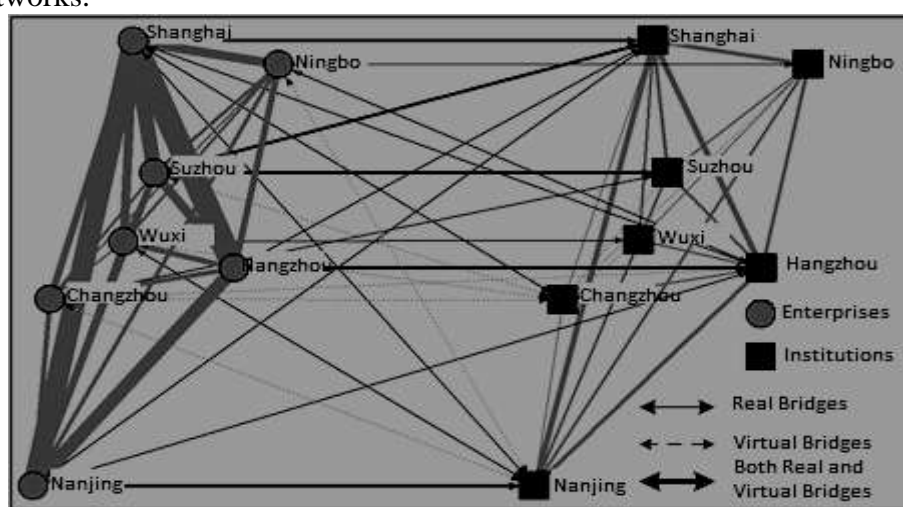


Fig. 4: The Relationship of Cluster Enterprises Network and Institutions Network of Seven Cities in Growing Stage

As is shown in figure 5, there were “direct cooperation tie” and “potential cooperation tie” between institutions and enterprises in Shanghai, Nanjing, Hangzhou and Suzhou. There were only “direct cooperation tie” in Wuxi and Ningbo. There were “potential cooperation tie” in Changzhou. The research found that the cooperation between enterprises within Shanghai, Nanjing and Hangzhou and institutions in other cities was “direct cooperation tie”. The cooperation between enterprises within Suzhou, Wuxi, Changzhou and Ningbo and institutions in other cities is “direct cooperation tie” or “potential cooperation tie”. It also found that the cooperation as “direct cooperation tie” or “potential cooperation tie” only happened when the enterprises were from Suzhou and institutions were from Shanghai. The paper made a further analysis to the cooperation between enterprises in Suzhou and institutions in Shanghai.

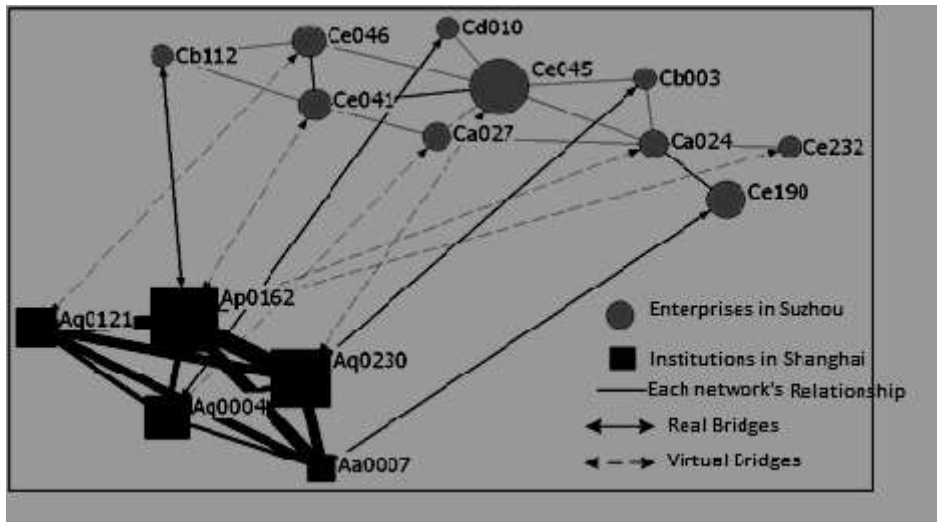


Fig. 5: The Relationship of Institutions in Shanghai and Enterprises in Suzhou in Growing Stage

As is shown in figure 5, the figure was the visualization result by picking up enterprises in Suzhou and institutions in Shanghai. There were cooperation between the enterprises and the institutions. Institutions in Shanghai cooperating with enterprises in Suzhou are key universities in Shanghai. They are Shanghai Jiaotong University (Ap0162), Tongji University (Aq0230), Fudan University (Aq0004), University of Shanghai for Science and Technology (Aq0121) and Shanghai University (Aa0007). Some of the enterprises in Suzhou having connections with these colleges were important nodes in Suzhou enterprises network, like Shenzhou Digital Guoxin Information Technology (Suzhou) Company Limited (Ce045) and Suzhou Woniu Digital Company Limited (Ce190). Most of the cooperation between enterprises in Suzhou and Institutions in Shang were “potential cooperation ties”. This reflected that the cooperation between enterprises and colleges in other cities was virtual cooperation. The virtual cooperation was consisted of technology needs by searching the relationship database. For example, there were 4 enterprises in Suzhou having cooperation with Shanghai Jiaotong University. Three sent technology needs to Shanghai Jiaotong University and then they had virtual cooperation with Shanghai Jiaotong University.

There were 4 enterprises having real cooperation with colleges in Shanghai. Taking Suzhou Woniu Electronic Company Limited as an example, this paper explained the cooperation between it and Shanghai University (Aa007). Shanghai University and Zhejiang University cooperated with this enterprise, Shanghai Beier Company Limited and Chuangwang Technology Company Limited in 2006. They invested and developed the “construction of network games developing platform”. And this project was the key project of the National Electronic Information Industry Development Fund. These two colleges mainly provided new technology knowledge to the project and Woniu Electronic Company Limited was main technology supporter. Knowledge spread from colleges to enterprises in the cooperation. This kind of cooperation could promote the competitiveness of enterprises and give direction to the knowledge creation of colleges.

In addition, a typical example of production and research cooperation between Suzhou and Shanghai was the strategic cooperation agreement signed by Suzhou government and Shanghai Jiaotong University. There were four projects about production and research cooperation. Two of them were about IS industry. They were

Suzhou Science and Technology city and Shanghai Jiaotong University Science and Technology Achievements Transformation Center, Shanghai Jiaotong University (Suzhou) Electronics IT Application Center. These projects could spread knowledge technology, patents and industry information and other resources from Shanghai Jiaotong University to Suzhou. This could improve the development of IS industry and other emerging industries.

The cooperation between two networks in different cities was mainly virtual cooperation. Potential cooperation mechanism was the main knowledge diffusions mechanism between enterprises and institutions in different cities and the other mechanisms, such as, the innovation cooperation mechanism, the joint training mechanism and the derivative transmission mechanism have some effect as well. Different knowledge diffusions are good for the knowledge spread from central cities to nearby cities. By those knowledge diffusions, it helps new knowledge spread in nearby cities' IS industry cluster. This helps central cities develop with nearby cities together, complement each other in knowledge diffusions effect. This helps the development of innovation ability in whole YRD IS industry cluster.

## 5. CONCLUSIONS

Based on the literatures reviews, this paper constructed enterprises network and institutions network based on the affiliation network and constructed the relationship between the two networks based on knowledge diffusions between "enterprises-institutions" through secondary data mining from the perspective of social network. This paper studied the mechanism in industry cluster based on knowledge diffusions between enterprises and institutions to learn the effect knowledge diffusion had on the evolution of industry cluster by network visualization and the corresponding methods.

Several conclusions were drawn. First, the whole IS industrial cluster in YRD was a fusion of each city's sub-clusters. In each cluster, there are more and more enterprises having the relationship of "competitiveness and cooperation" in the same industry and institutions having the relationship of "cooperation" in the same field. And it formed the development structural feature with Shanghai, Hangzhou and Nanjing as leaders, Suzhou, Wuxi, Changzhou and Ningbo as followers. Second, knowledge diffusions between two networks in different cities are good for the evolution of the whole YRD cluster network. Knowledge diffusions between institutions and enterprises occurred within Shanghai, Nanjing and Hangzhou in embryonic stage, within provinces in cultivating stage and across regions in growing stage. Knowledge spread from central cities to nearby cities and the development of central cities' cluster accelerated the development of nearby cities' cluster.

The revelations of this paper are as follows. From the perspective of local governments, government departments should focus on the local key enterprises. Governments should give policies to support the enterprises if necessary. Governments should support the cooperation between colleges and enterprises by giving "fresh innovation air" of colleges to enterprises. From the perspective of industry and region, each city in YRD should develop together. Each city should focus on different fields when developing IS industry. This can help them complement each other and accelerate the development of the whole region. Third, colleges and science research institutions should keep a close relationship with enterprises and create new knowledge in relevant fields. Colleges should try to spread the latest industry knowledge, research results, information and other resources to enterprises.



Because of restraints of data and other objective conditions, there are shortages in this paper as well. First, the paper lacked the latest data. Second, the relationship between enterprises and institutions is mined from the public information of each institution's official website. Some cooperation between enterprises and institutions in the same field is not mined. So knowledge diffusions mechanism cannot be described clearly, especially mixing mechanism. Because of the influence, the research should be complemented in the future.

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## Pricing Strategy of Service Provider in Cloud Computing

Victor B. Kreng, Hsing-me Chen, I-chin Su

### ABSTRACT

The development of cloud computing made a great impact on the business model of network services. However, most of cloud researches focus on the developments and applications of cloud technique, while researches in business model and pricing strategy are consequently rare. This study, therefore, adopts the Hotelling approach to establish both service-market model and product-market model to investigate how the service providers determine their pricing scheme for both basic cloud service and value-added cloud service.

From the outcomes of equilibrium results and analyses, this study concludes that the profit in the service market will be negatively influenced if user perceived risks from service security, congestion, and availability while offering only basic service. However, the increase of user perceived value will stimulate the market demand and further improve the profit level. On the contrary, service provider raises price under the situation of identical perceived value might crash the market. As to the provision of value-added service might relatively condense the basic service charge, the overall market growth and profit are better than only offering the basic service due to the relieve from congestion effect. Accordingly, the cloud service providers can utilize market segmentation and price discrimination to enhance the operation profit and market share by gathering the consumption characteristics from users.

Keyword: cloud computing, consumption of network, congestion, pricing strategy

## Discussion on the free port strategy of China

Jiuling Li<sup>76</sup>

### ABSTRACT

Special Economic Zone (SPZ) is a creation of open policy. It not only mobilizes the initiative of local government to develop economy, but mobilizes the initiative of domestic and foreign investment as well. However, there are several deep-seated problems restrict the economic development. It is that advancing the reform and opening-up requires emancipating the mind. Therefore, free port strategy could be a new measure for enhancing the open policy, leading SPZ development to a new stage, improving the quality of export-oriented economy and enhancing the international competitiveness of China.

Key words: free port, bonded area, comprehensive reform experimental area

Free port strategy could be a new measure for enhancing the open policy, leading “two centers” core functional area construction of Pudong District to enter a new stage, improving the quality of export-oriented economy in China and enhancing the international competitiveness of China.

After the first comprehensive reform experimental area in Shanghai Pudong District were permitted to set by the State Council on June 21,2005, nine national comprehensive reform experimental areas were set up sequentially, include Tianjing costal comprehensive reform experimental area, Shenzheng comprehensive reform experimental point, Wuhan city circle, Chang-Zhu-Tan city group, national resource saving and environment friendly comprehensive reform experimental area. Free port strategy has been made an essential hand for comprehensive reform experimental area construction in Shanghai Pudong District, Tianjing Coast and Shenzheng. Meanwhile, several coastal cities include Dalian, Xiamen, Ningbo, Hainan and Zhangjiajie, come up with the idea of free port construction. Free port appears on China economic stage.

### 1 Free Port is an Advanced Open Policy

Early in June 1998, Xiaoping Deng conceived that “More continental Hong Kong Construction”, in which Hong Kong equals free port in the economic meaning. This is the earliest free port strategy. According to statistics, ninety percent foreign trade is completed by ocean shipping. Port becomes the bridgehead of foreign trade. A port that integrates cargo flow, information flow, capital flow, technology flow in international logistics could be an important strategy resource of participating global corporation and competition for all states. Therefore, free port construction in Shanghai, Tianjing and Shenzheng, which are essential foreign trade centers and international shipping centers in China, is an inevitable choice for international portal construction for Asia-pacific, international hub port construction in northeast Asia, international finance center construction, modern service industry and advanced manufactory industry center construction.

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There are six special functional areas in China: bonded area, economic technological development zone, import and export processing area, logistic park, free port. They provide software-hardware condition, reducing difficulties and risks for free port construction. Bonded area would be pilot for free port strategy.

Established by State Council, in harbor operation zone and related area, bonded port area intergrades harbor operation, logistics and processing, becoming a special port for customs supervision. As idiomatic free port in China, bonded port area is the best special economic functional zone, with highest opening degree, having the most favorable policy, fullest function and the most advantage location.

Based on bonded area, the bonded port area in China has stronger functions. After joining World Trade Organization(WTO), thanks to the national treatment, tariff reduces greatly to 9.7%, tariff and non-tariff barrier decreases significantly, the advantages in bonded area is weakened relatively, and the function in bonded area is about to promote. The volume of trade in China was the most in the world. However, there is no international hub port which has the global transit ability. Most import and export goods are transferred in neighboring countries. One reason is that the ports in the coast of China are not bonded. It is unfavorable in international competitive market, influencing the development of international trade and out-oriented economy. In order to improve the international competitiveness of China, hub port that has the international transfer ability should be built first. Therefore, building a bonded port area which integrates the bonded policy and port, improving the competitiveness and attractiveness becomes necessity. In 2005, Yangshan bonded port area was registered by State Council in Shanghai, inside which the favorable tax and foreign exchange policy of bonded area is enjoyed. Later, eight zone-port joint trial areas were registered.

The free port strategy has started, but in its exploring innovative stage. The enthusiast of free port construction will lead to blind competition. Therefore, the thing in top priority is to select the trail point which has most strength and potential to build international hub port, establishing a free port equivalent of the international trade abilities of China.

## **2.The Characteristics and Role of Free Port**

Free port is a port that all or most foreign goods are allowed to be import and export duty-free. Outside the countries customs frontier, it also called free trade zone, foreign trade zone. Beside duty-free, the goods in free port can also be repacked, processed, indefinite storage and sale. The goods should be taxed when purchased by consumers in the country. Of course, the foreign ship should observe the discipline of sanitation, immigration policies and so on.

Free port has become a tie to strength the international economic and trade relations, and an essential way to develop outward-oriented economic. That's because it has four advantage characters.

<b>Characters</b>	<b>explanations</b>
“outside the customs and within the boundary” open policy	“Within the boundary” means in part of the territory; “outside the customs” means outside customs frontiers; “excused from implementing customary customs supervisory system” means

	adopting open enterprise access systems, bonded system, preferential tax and industrial policy.
Economic liberalization	Free in and out shipping, free transaction trade system; free monetary and financial system, free investment and operation, free flowing goods and human resource administration.
Internationalized economic relations	No differential country and social system in free port; encourage international investment and trade; mixed economics of different countries
Comprehensive functions	Have functions of international logistics, international trade, international transfers, export process and business travel; have comprehensive preferential policies, include tax free policies, foreign invest policies, financial foreign exchange policies, dividends and bonus policies and entry-exit policies which fit in global economics

Free port made its first appearance in Europe, when Marseille was made free trade zone by France in 13<sup>th</sup> century. One of the earliest free port is officially set in 1547, Italy's Livorno, which is the current prototype of a free port. From then on, more free ports were established by different countries in order to extend international trade and to be in conformance with trade globalization and international division of labor. The fact shows the advantages of free port, making full use of port, reducing transaction cost, building a international system of comprehensive transport, processing and service, while increase added value, foreign exchange earnings and job opportunities. Free port boosts export-oriented economic and international trade. Firstly, it mostly facilitates international trade, minimize transaction cost and maximize the benefits. Secondly, bring leading role of regional development into full play, making port a center of export-oriented economics, with comprehensive and multi-function. It would accelerate the development of a country or area in an export-oriented way. Last but not least, modernize and internationalize the port city, developing modern service industry like finance and insurance. Based in port logistics, it can be developed into a center of international trade, finance and shipping.

Therefore, free port is the earliest Special Economic Zone in the world, with highest opening degree, most liberalized international trade, most facilitated regulation, favorable policies. It is a forerunner of world economic development. Building free port is an essential reforming measure for China as the largest rising nation of trade and export-oriented economics.

### **3.The Difference Between Free Port and Bonded Port Area in China and Reform Assumption**

As a free port in recent China, bonded port area is the best special economic functional zone, with highest opening degree, having the most favorable policy, fullest function and the most advantage location. With part functions and favorable policies of free port bonded port area is the special economic zone which most close to free port. However, there is still a huge gap between free port and bonded port area. Compared to free port, bonded port area lacks opening degree of economics, free degree and facilitation which are advantages to boost foreign trade and economics.

<b>Difference between free port and bonded port area</b>	<b>Free port</b>	<b>Bonded port area</b>
purpose	Gain international free trade and boost national economy	Boost open economy and regional economic development
Regional property	Outside customs and within the boundary	Within customs and boundary; special customs supervision port area
Free degree	High free degree; free and convenient administration from unload to transfer.	Low free degree; restrict front-line, second-line and regional customs supervision
function	Obvious comprehensive functions and policies. Preferential policies for exit-entry persons, autonomous invest companies and free exchange money.	Unitary tax preferential policy
Administration system	Macro administration and corporation by specialized agency	Local government administration; government investment and administration, non separation

Free port is the best special economic functional zone, with highest opening degree, having the most favorable policy, fullest function and the most advantage location in the world. However, different countries have different preferential policies based on state economic strength and development strategy. Generally, there are less preferential policies and encouraging measures in developed countries. One reason is that free port in developed countries with longer history, has strength to attract international trade and capital in the mature global market. Secondly, more free port set made preferential policies less. For instance, in early May, 2010, according to Hamburg government economic and labor news agency, Hamburg Senate decides to abolish Free Zone effective 1 January 2013. "The establishment of the European Economic Community (EEC) resulted in the formation of a customs union amongst the EEC member countries. Customs law became European law. The passing of the modernized EU Customs Code in 2008 completed the final customs law integration of the existing free ports, meanwhile referred to as Free Zones, which had begun in 1994 and has led to the complete relinquishing of national customs and tax privileges"<sup>77</sup>. Hamburg from free port to a European Customs seaport with all the preferential policies integrated, as is already the case in other parts of the Port of Hamburg, in Rotterdam, Antwerp and other European ports. While in developing countries and areas, the special economic zones are in a blooming period, with more preferential policies and encouraging measures. It will attract more international trade opportunities and investment, accelerating export-oriented economic development, improving international trade competitiveness.

<sup>77</sup> Ports of Hamburg <http://www.hafen-hamburg.de/node/2656>

Building free port is an important way to improve international competitiveness for China as a developing the great power in the world. It is a wise move to start free port strategy. Bonded area, export processing zone, bonded port area, zone-port joint are effective ways which could lead to free port. Especially bonded port area, as a localized free port in China, can finally become real free port in the world most probably.

When free port strategy started, there should be an intergraded design of administration organizations, policies, systems, functions for free port. Then, according to the Development and Evolvement Rule and the situation of China, make clear the keys to building free port in China. The keys that we know are as follows, first, finite-type and comprehensive free port are predominant. Second, the main function of free port is to boost export-oriented economy and to accelerating the constructions of international trade center, finance center and international shipping center, improving the comprehensive strength of China in the global market. Third, basic principles should be adhered are in a planned way, step by step and with steady progress emphatically. Last but not least, less dispute and interference, accelerating development to gain more business opportunities are its basic requirement.

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## **Construction of Chinese Listed Companies Governance Risk and its oversight mechanisms**

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### **ABSTRACT**

This paper first analysis of the status and trends of the illegal acts of the listed companies in the transition economies of both developed and emerging markets of the 21st century has become a worldwide importance, arduous and urgency, which leads to the risk of corporate governance issues difficult problems in the issues, and then draw on domestic and foreign academic research on the risk of corporate governance to prevent their illegal activities, combined with the essential characteristics and the actual situation of the governance of listed companies in China, from the elements of governance risk causes analyzes based company perspective of the governance body, build a Chinese listed company governance oversight of risk prevention mechanism, and in respect of corporate governance within the oversight mechanisms, how external governance play a role to start the detailed analysis and explanation.

Keywords: listed companies; Governance Risk Corporate; governance oversight mechanisms

### **1 INTRODUCTION**

Moody's Investors Service and Fitch Ratings Ltd. – which two of “the three major credit rating companies in July 2011 in the West, after another 61 rated Chinese companies issued a “red flag” warning, as well as expressed concerns about pressure on its corporate governance of the 35 Chinese-funded enterprises in the assessment report, once again caused a hot discussion of the relationship between corporate governance and financial risk.

“Red flag” that the need for investors to be wary of the presence of signs to be rated high-yield non-financial companies, such as rapid expansion plan, fast-growing, short time-to-market, customer ownership is highly concentrated, and reduce the quality of earnings and cash flow. It is not explain to a larger number of lower-rated “red flag” flashed “red flag” between the two is inevitable, but it is intended to emphasize the worth careful review of the issues, such as poor corporate governance, business model risk increases or more opaque, reducing the quality of the rapid expansion of corporate, income or cash flow as well as concern about the quality of the audit institutions and the financial statements in order to identify emerging markets, non-financial corporate bond issuer may exist in corporate governance or financial risk .

In fact, from the outbreak of the Asian financial crisis in 1997, to the 2003 U.S. financial scandals of Enron, WorldCom, and then by the U.S. subprime mortgage crisis triggered by the global financial crisis in 2008, without exception, which all related to micro-economic the level of corporate governance issues. It can be said that the problem of the financial risk and its governance of listed companies has become a difficult problem in the world. People become more aware that modern corporate governance issues deal with success or failure will be directly related to the fate of the economic development of a country (region).

In a narrow sense, corporate governance is an internal system of governance, the equilibrium was set by the shareholders' meeting, board of directors, board of supervisors, managers, and to clarify the responsibilities between the various agencies, and the purpose of regulating the relationship between the agencies. Broadly speaking, corporate governance relates to the relationship with stakeholders and corporate governance, which including the company's external environment, such as the legal system and the market environment, also including the constraints of the company's internal incentive and monitoring mechanisms.

It is impossible to have a good internal control system without a complete corporate governance mechanism, improve corporate governance to guard against the risk of a listed company governance has become the consensus of the scholars. As the representative of developed countries and the Anglo-American securities market compared to the environment and its corporate governance of Chinese listed companies facing different First, China's internal corporate governance building basically followed the Anglo-American model, but there is a great difference, one of the most obvious one is unique in that "due to the dominance of state-owned shares of most listed companies in China; Second , competitive market economy environment in China is far from completely built up , especially the labor market , corporate executives employ non-market mechanisms different from those of Britain and other developed countries also affect its behavior ;Once again , China 's legal system is not perfect , in particular , the efficiency of the implementation is still relatively low , leading to inadequate legal protection of the interests of investors in a certain extent.

In view of this, how to consider the special situation in China, from the perspective of corporate governance body to analyze the level of corporate governance oversight mechanisms to build, is the focus of this study to identify the governance of the financial risk prevention strategy.

## **2 The research Review of the relationship of financial risk and corporate governance**

The continued occurrence of financial fraud worldwide, making the financial risk and financial fraud governance of listed companies which facing serious challenges in the 21st century. In 2001, Enron (Enron) admitted to the U.S. Securities and Exchange Commission (SEC) misrepresent total profit of nearly 30 billion U.S. dollars to conceal liabilities of up to \$ 11 billion from 1997 to 2001. Since then, the star of companies such as Xerox , the world's communications companies have involved in financial scandals , and prompted the U.S. Congress to pass the most severe since 1934 Listed Company Supervision Act - Sarbanes - Oxley Act .U.S. financial crisis triggered by the subprime mortgage crisis to some extent, it can be said that the results of the company's financial fraud. In developing countries, the listed companies' financial fraud behavior is more prevalent.

Since the establishment of a securities market in China, listed companies, financial fraud behavior are endless, from Joan source, Guangxia succession to Kelon Electrical series of listed companies' financial fraud, Securities Regulatory agencies investigated and a cause sustained attention from all walks of life. Chinese listed companies in 2005 , the financial implications SFC ordering rectification 38 and 50 of the Commission to initiate an investigation , of which two have been issued by the investigation report public punishment ; SFC publicly penalties and 58 bourses publicly condemned .

Listed company fraud caused a great loss to the community, and the strong reaction of the public listed company fraud also reveals the importance of governance and arduous nature of the fraud, such as China, the countries with economies in transition and particularly urgent.

Foreign literature about the company's financial fraud can be described as voluminous, but empirical research on the relationship between corporate governance and financial fraud because the Anglo-American-led researchers is difficult to have enough financial fraud company samples for research purposes. First, the content of most of the literature focuses on the external auditor should be concerned about what red flags and signs, development of analytical techniques to identify fraud, as well as how to follow the auditing standards to guard against the risk of company fraud to the auditors audit. Second, it is very concerned about the equity incentive impact on financial fraud, some of the literature that excessive incentive stock options is one of the incentives of the listed companies' financial fraud. Third, most of the financial fraud studies to Western developed countries, especially the legal framework of the United States as the background, fewer consider the impact of laws and regulations and guidelines for financial fraud.

China's financial fraud, some accounting firms involved in the process of financial fraud, only prevention of financial fraud is not enough to discuss the level of diagnostic techniques, must have a clear understanding of the causes of the financial fraud. In addition, the Chinese manager market with the control of the market is underdeveloped equity incentive, especially in China, countries with economies in transition, while the provisions of the laws and regulations in Western countries is basically the same, but the legal system environments, such as judicial efficiency of financial fraud impact has not yet formed a relatively systematic and practical research. The characteristics of governance which listed companies on financial fraud is still in its infancy.

### **3 To build the Chinese-style of the corporate governance oversight mechanism**

Financial fraud studies of China's listed companies, generally based on the terms of the provisions of the Securities Supervision and Administration departments to determine whether the listed companies in financial fraud behavior. Financial corrupt conduct is illegal by the public punishment of the securities regulatory authorities, generally can be divided into: illegal to buy stocks, fictitious profits, false statement of assets, unauthorized changes in the use of funds to postpone disclosure, false statements, funded violations major omission, occupied by the largest shareholder of the listed company's assets, and so on. Prevention of financial fraud in the operation of practice is mainly based on the recognition of the independent auditors of financial reports, as well as by summarizing the common feature of past fraud or the use of analytical tools to prompt the auditors may corrupt conduct. Therefore, the prevention of a very limited role is a punish acts for the supervision of an afterthought. Financial fraud causes that factor analysis of the impact on the corporate governance of financial fraud, can be turned into financial fraud after the supervision and management behavior for the advance prevention of financial risks management behavior.

Analysis of influencing factors for the corporate governance of financial fraud, the study abroad mainly in three aspects of the board of directors characteristics, board size, board composition and leadership structure, but results of view, does not form a consistent conclusion.<sup>[1]</sup> Abroad, another focus of attention in recent years is the

equity incentive impact on financial fraud, because the prevalence of incentive stock options in recent years, and a large number of company fraud forge a profit motive are managers who get huge amounts of stock-based compensation, stimulate the stock prices.

Foreign independent audit and financial fraud relationship is more widely involved in the independence of the independent audit, the independent audit quality, audit fees, non-audit services and financial fraud. Governance of some of the conclusions of the foreign financial fraud in China has a certain referential significance, but is still in the preliminary stage of exploration Governance Mechanism in China on financial fraud, if any, studies have shown that the proportion of independent directors, the size of the board, chairman of the board and the total manager of two-in-one to explain the ability of financial fraud is limited (Zhang Junsheng, has Yamin, 2004)<sup>[2]</sup>; otherwise scholars have found that board size is positively correlated with the financial reporting fraud but not significantly, while the proportion of executive directors, inside directors Vietnam high, the company is more likely to occur financial reporting fraud (Dealing, Du Ying, 2003)<sup>[3]</sup>; study reveals the shareholding structure and board characteristics of financial fraud (chen et al, 2006) [4]; while Another study found that the stake of the largest shareholder and Financial Fraud significant negative correlation (Chan Kwok Jin, Lin Hui, Wang Lei, 2005)<sup>[5]</sup>.

Quite different experience of these few findings with foreign small number of inconsistent results, are insufficient as empirical evidence of corrupt governance of listed companies in China's financial support. The the Financial Fraud Governance Another disadvantage is that only referring to foreign ideas, consider the object as a governance mechanism in a study, not depth discussion and verification of a certain kind of relationship governance mechanisms and financial fraud , so that the credibility of the conclusions have been challenged.

Combination of these corporate governance of Chinese and foreign financial fraud conclusions affecting factors, one of the major causes of China's listed companies' financial fraud can be attributed to the level of corporate governance oversight mechanism failure, and, combined with the actual situation of Chinese corporate governance from the perspective of the corporate governance body building supervision of corporate governance, risk prevention mechanism based governance body, as shown in the following figure.

Corporate governance oversight mechanisms constitute a part of the role each specific analysis is as follows:

### **1. Shareholder oversight.**

The shareholders active protection of their own interests by the shareholders' meeting, the use of voting rights to influence board decisions, therefore, to increase their voting rights, the shareholders will hold a large number of shares and options are more focused, and this will cause the two sides, and both can be used to protect the interests of the major shareholder, will also be used to infringe on the interests of small shareholders, the higher the degree of concentration of ownership of listed companies is more prone to financial fraud.

### **2. The efficiency of the supervision of the Board.**

The board of directors is the shareholders to guarantee the efficiency of cooperation of the managers, set in place within the enterprise exercise residual

control and supervise organ, the Supervision and managers of it on behalf of all shareholders. The main factors influencing the efficiency of the supervision of the Board: ①board size. The scale of the General Assembly of the Board's decision made efficiency, and lead to rising costs of monitoring. ②independence of the board. The introduction of outside directors (independent directors and their proportion) agency problems between ease the shareholders and managers, but inferior information on access to information, however, the higher the proportion of independent directors, the lower frequency of financial fraud. ③leadership structure. Whether the post of chairman and general manager of two-one-one post of chairman and CEO, will reduce the independence of the board and supervision efficiency, but it will improve the work efficiency of the board and management, so as to implement more powerful internal control.

### **3. Board of Supervisors.**

The Board of Supervisors is a specially elected by the shareholders' meeting the specialized agencies of the oversight responsibilities. Generally set up in the country mainly to the internal governance of the Board of Supervisors; countries mainly in the external governance, corporate governance structure often does not set up a separate board of supervisors, to fulfill its function by the Professional Committee of the Audit Committee of the Board has jurisdiction over.

### **4. Independent audit.**

External audit from a third party stand for the company's financial reports provide forensic quality audit oversight can inhibit the corrupt practices of the Company's financial. Increase penalties for dereliction of duty by the independent auditors can better prevent financial fraud.

### **5. Securities Regulatory agencies.**

Securities Regulatory agencies mandatory for listed companies to establish, implement, evaluate, and the disclosure of internal control; strengthen the regulation of accounting firms and other intermediary institutions, give full play to its independent visas role, focusing on monitoring company changes accounting firm, to further improve the information disclosure rapid response mechanisms; closely with the regulatory and market regulators to increase the penalties for illegal behavior on the market, listed company stakeholders illegal cost, severely punish the stress of external audit irregularities.

### **6. Management Incentives.**

Establish reasonable remuneration to motivate managers and financial fraud through to strengthen remuneration incentive to governance. Executive Incentive points cash reward incentive and option compensation incentives. But in China, the cash incentive and equity incentive for managers of listed companies are serious lower than in the United States.

### **7. Managers reputation.**

Reputation effect will lead managers to improve their reputation in the market managers, outstanding performance and thus increase the value of their human capital to achieve the purpose of long-term governance and moral risk.

### **8. Competition in the market.**

Managers will redouble our efforts to work in order to earn a higher income in the future for themselves, so as to show their viability manager market.

## **9. National legal systems environment.**

Against the interests of outside shareholders in most of the listed companies in the world, important issues of corporate governance are not managers, but to control the largest shareholder predatory interests of minority shareholders, corporate control will shift from the corporate assets and profits to their own system infringing small the interests of the shareholders, when the legal protection of the interests of minority shareholders becomes vacant, the interests of the more serious violations. When the external investor financing to the company, will face the risk of deprivation due to the controlling shareholders or managers cannot get the return on their investments. Therefore, to a large extent, the company governance to outside investors in order to prevent the deprivation of rights by the internal mechanism of a law is one of them. Due to lack of enough restrictions on the violations of the largest shareholder legal and corporate ownership is highly concentrated, against small shareholders the extent of the major shareholders of the listed companies in China is much higher than that of the Anglo-American countries, therefore, concern the legal protection of investors' interests in China.

## **10. Corporate governance culture.**

The corporate governance structure was born in Western countries is a cultural projection system of the country's political structure, social structure within the company, that is, the Western democracies, checks and balances, the institutionalization of the culture of equality in the corporate structure. Chinese companies, especially listed companies, due to the profound impact of the special historical and cultural traditions and the planned economy era, the difficulties of the corporate governance is to establish the physical structure, but lies in the construction of the physical structure of the real effective functioning cultural foundation, which not only depends on the system of internal civilization, the company is more dependent on external geographical environment, national culture, business environment and legal environment and the impact of broader socio-cultural and spiritual civilization construction.

## **4 Few notes**

1 Corporate governance substance of the institutional arrangements of corporate power, the Internal Oversight mechanisms (shareholder oversight, the efficiency of the supervision of the Board, the Board of Supervisors) is the performance of the power of business arrangements, and the independent audit and government supervision is the supervision of the internal distribution of power, it will affect the result of the distribution of power. The board size is the efficiency of the supervision of the Board the enterprise stakeholders the results of the game, shareholding structure as well as the overall performance of government provisions on the composition of the Board.

2 The role of internal governance mechanisms to achieve by the board of directors, board of supervisors and shareholders. The shareholders usually reserved the right to review and veto power, such as directors, supervisors, auditors option and merger, capital increase and issue of new shares and other matters. Management control functions authorized by the shareholders to the board of directors oversight functions granted to the Board of Supervisors, the Board of Directors and then most of the decision-making management capabilities and many decision-making control function to give the manager of the company hierarchy. However, the Board retains the power to control managers, including the company's decision-making and brewing, policy

approval and hiring, dismissal of senior managers and the power to determine their wage levels.

3 Internal corporate governance through the design of scientific institutions of corporate governance, the formation of co-ordination, co-ordination mechanism of checks and balances to ensure that the command and coordination of the operation and management of the business can be carried out smoothly.

4 External Corporate Governance enterprise management behavior by the manager market, control over the market, as well as national laws and regulations, geographical environment, national culture, operating environment and other external forces conduct supervision and external governance complements internal governance, and its role is to the conduct of operations by external evaluation, and forcing company management self-discipline and self-control. Good corporate governance mechanism should include both an effective internal incentive constraint checks and balances, including a company external governance market, also must have a perfect legal system of corporate governance, as well as a governance system complement of governance culture.

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# **International Business Management**

**10:00-12:00, December 16, 2012 (Meeting Room 3)**

**464: The Compare of Service Trade Technology Structure Among Shanghai,  
Hong Kong and Singapore**

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## The Compare of Service Trade Technology Structure Among Shanghai, Hong Kong and Singapore

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### ABSTRACT

Export Integrity Technology Level Index show that technology level of Shanghai Services Export has great increase during 2000-2010, but falls enormously behind H.K. and Singapore because of the lag of exports of services with high technology; Export Technology Structure Optimizing Index shows Shanghai has greater potential than H.K. and Singapore to improve Service Export technology level; Shanghai should promote the export of technology-intensive services.

Keywords: Services Export, Technology Level; Structure Optimizing

### 1. INTRODUCTION

It is generally believed that the trade quality of a country/region mainly depends on the level of technology content of exports, because it indicates whether the export is resource-intensive or technology-intensive. If the growth of exports mainly relies on the resource input, the growth model of export may not be sustainable, and is unfavourable to the sustainable and steady economic development. If the technology content of exports has a corresponding increase with the export volume, the model of export growth is sustainable and is favourable to the sustainable and stable economic development. Therefore, a country/region should not only pursue the growth of export volume, but also improve the technical content of the export.

From 2000 to 2010, the services export of Shanghai has increased from USD3.6 billion to USD40.64 billion, and ranks first place in all provinces in China, but it is necessary to study the quality and sustainability. So this paper will count and compare Services Export Integrity Technology Level Index and Services Export Technology Structure Optimizing Index of Shanghai, H.K. and Singapore, and put corresponding suggestion and reference for Shanghai to promote the quality and sustainability of service exports and accelerate the building of international trade center.

### 2. DISCUSSION

After entry into WTO, China Service Trade has a rapid development as well as a growing trade deficit and an irrational export structure, because the labor-intensive and resource-dependent service are dominating, and modern service trade develops slowly, and trade competitiveness is weaker and the development of sectors is imbalanced (Cheng Nan-yang, Yang Hongqiang and Nie Ying, 2006<sup>[1]</sup>; Yu Daoxian<sup>[2]</sup>). In brief, Chinese service trade structure is characterized by low technology content and poor sustainability (Yang Qing, 2008)<sup>[3]</sup>, even is much weaker than India in the structure of service export (Chen Yanqing, 2009)<sup>[4]</sup>. So, China should change the service trade

structure and accelerate the economy transformation and upgrade (Wang Yu, 2007)<sup>[5]</sup>. Especially, Dong Zhiqing and Xia Xiaodi (2010)<sup>[6]</sup> count the technology content index (TCI) of eleven kinds of sub-service trade and the overall technology structure index (TSI) of service trade from 1995 to 2007, and conclude that TCI of emerging trade such as financial, insurance and franchise services is very high, but overall technology level of service exports of China is relatively low and TSI has not changed over time, and the degree of optimization is extremely low and international competition is not consequently enhanced with the increase of service export volume.

But there is opposite views. In term of trade structure, Qiu Yi (2009)<sup>[7]</sup> counts and compares the technology diffusion effect through commodity, service and technology trade, and concludes service trade is the important channel for international technology diffusion, and Chinese service trade structure is in upgrade with the raise of trade volume.

And some studies refer to the factor influencing the service trade structure. Chen Yanqing (2008)<sup>[8]</sup> finds that the structure of service trade in USA was not only reasonable but constantly optimized, and especially the technological innovation play an important role in the structural optimization of service trade in USA. Chen Lei (2011)<sup>[9]</sup> point out that technology innovation has important positive effect to the service trade structure optimization.

But all the above studies are at the national level to measure and analyze the service trade structure of China. However, the economic developments are uneven and the stages of industrial structure transformation are different at different regions all over China, so there are great gaps at the development of service industry and trade at different regions. Therefore, considering the two earlier stage aims of the building of Shanghai International Trade Center - 2008-2010 will basically build the “hinterland type” International trade center referring to H.K. and 2010-2015 the “transit type” International Trade Center referring to Singapore<sup>[10]</sup>, this article will measure and compare the service export technology structure and optimizing potential among Shanghai, H.K. and Singapore, in order to putting forwarding corresponding guidance to promote the optimization of service trade technology structure.

### **3. THE CALCULATION OF SERVICE EXPORT TECHNOLOGY STRUCTURE INDEX**

This article has established Services Export Technology Content Index (SETCI), Services Export Integrity Technology Level Index (SEITLI) and Services Export Technology Structure Optimizing Index (SETSOI) by adapting the measures of Du xiuli and Wang weiguo(2007)<sup>[11]</sup>, Dong zhiqing and Xia xiaodi(2010) to count and compare the service export technology structure and its optimizing degree among Shanghai, H.K. and Singapore. Except especial illustration, the following raw data are from 《UNCTAD Handbook of Statistics 2011》, Shanghai Municipal Commission of Commerce’s 《Shanghai Service Trade Development Report》. Therein, services exports use the current U.S.D. prices and the per capital GDPs use the base period prices and exchange rate U.S.D prices on 2005.

#### **3.1 Analysis of scales of service exports of three regions**

From 2000 to 2010, the service export of Shanghai has a rapid growth and the growth rate is far greater than H.K. and Singapore, and narrows the gap with H.K. and Singapore (Table 1); but we still need study the quality of development in-depth.

Table 1: Service Export of Shanghai, H.K. and Singapore (Unit: USD Billions)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Shanghai	3.60	4.60	5.687	7.716	12.08	16.08	19.2	25.01	32.31	29.83	40.64
H.K.	40.36	41.1	44.55	46.5	55.1	63.65	72.67	84.66	92.23	86.34	107.92
Singapore	28.42	28.4	30.78	37.82	48.28	55.49	66.13	84.94	99.19	93.52	112.06

### 3.2 The calculation of SETCIs of various service

According to the assumption that the technology content of products exported by high-income economies is high (Chi Hung Kwan, 2002<sup>[12]</sup>, Weiss Zhang, 2005<sup>[13]</sup>, Xu Bin, 2006<sup>[14]</sup> and Hausmann, 2006<sup>[15]</sup>), the SETCI can be defined as the weighted sum of the income levels of all economies, and the weights are international market shares of various economies in various service export. The formula is:

$$SETCI_j = \sum_{i=1}^n SE_{ij} \times Y_i \quad (1)$$

Therein, the SETCI<sub>j</sub> is the SETCI of j service; the SE<sub>ij</sub> is the weight - ratio of j service export of i economy to j service export sum of the world; Y<sub>i</sub> is i economy's income level indicated with per capita GDP. Table 2 shows the SETCIs by sub-sectors of World during 2000-2010.

Table 2: SETCIs of service trade of sub-sectors of World (Unit: USD)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Transport	29049.7	28923.1	28621.3	28593.6	28799.8	28995.4	29484.1	29749.4	29258.3	28027.5	28529.6
Travel	25462.4	25161.7	25094.2	25321.6	25532.1	25714.5	26014.1	26305.5	26152.2	25060.3	25922.0
Communications	27052.8	28406.1	28396.3	28540.3	28520.4	28566.0	29481.0	30469.7	30571.7	30076.6	31152.0
Construction	28335.5	28476.3	27224.0	27368.6	27235.5	27383.2	27935.7	27318.0	26229.0	25450.9	25230.0
Insurance	31385.8	31905.4	34356.2	35867.3	37189.0	36582.0	38600.8	38703.8	37870.7	36131.7	36742.3
Financial services	39546.7	39896.6	40651.4	41288.2	42635.6	43678.3	44997.6	45778.8	45015.5	42859.1	43544.0
Computer and information	29069.7	29038.8	28919.6	30125.7	30832.1	30116.8	29906.9	29749.2	28312.3	26235.6	25217.6
Royalties and licence fees	36095.9	36089.5	36367.1	36754.4	37462.6	38287.2	39347.0	40088.3	39362.9	37925.7	38554.8
Other business services	28376.8	29321.7	29853.3	29865.1	30306.9	31025.9	31260.4	32015.2	31798.5	30553.3	30811.3
Personal, cultural and recreational services	30393.1	31822.3	29339.7	30341.3	30069.5	30989.7	33699.1	34111.6	33995.9	33884.1	34573.0

Accord to the average SETCI of each kind of service from 2000 to 2010, all services can be classified into five kinds (Table 3) .

Table 3 Kinds of service according to SETCIs

Kinds	Concrete Service Products
High-tech Service	Financial Service, Royalties and Licence Fees
Above middle-tech Service	Insurance ; Person, cultural and recreational services
Middle-tech Service	Other business service ; Communications service
Lower middle-tech Service	Transport ; Computer and information
Low-tech Service	Construction ; Travel

### 3.3 Services Export Integrity Technology Level Indexes of three regions

The SETCI of each economy can be defined as the weighted sum of the SETCIs of all Economies; the weight is international market share of various Economies in various services. The formula is:

$$SEITLI_i = \sum_{j=1}^m SETCI_j \times SE_{ij} \quad (2)$$

Therein, the SEITLI<sub>i</sub> is the SEITLI of i economy. The Index indicates not only the relative level of the Economy's SEITLI to other Economics, but also the change trend of the Economy's SEITLI during certain period. Table 4 shows the SEITLIs of Shanghai, H.K. and Singapore from 2000 to 2010.

Table 4 SEITLIs of Shanghai, H.K. and Singapore (Unit: USD)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Shanghai	740.78	865.86	1052.2	1353.2	1862.3	2970.4	3160.7	3179.5	3585.4	4588.3	5572.0
H.K.	5709.0	6241.8	6331.2	5582.7	5363.3	5606.0	5693.6	5558.9	5287.3	5404.2	6188.9
Singapore	3999.2	4392.5	4783.0	5219.7	5445.5	5548.5	5836.8	6153.7	6264.1	6720.3	7877.8

Table 4 indicates that Shanghai's SEITL is significantly lower because the development of high-tech service exports of Shanghai has lagged behind, and the ratio to the total services exports is significantly lower than that of H.K. and Singapore (Table 5); but it must be noted that the SEITL of Shanghai's service export has a significant Late-developing Advantage and continue to narrow the gap with H.K. and Singapore, because Shanghai has a rapid development in Above middle-tech service, and the ratio to total service export is much higher than that of H.K. and Singapore. Due to the same reason, the SEITL of Singapore is higher than that of H.K (Table 5)

Table 5 Structures of Service Export of Shanghai, H.K. and Singapore (Unit: %)

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
High-tech	Shanghai	1.255	1.216	0.853	0.355	0.742	0.867	0.659	1.040	0.772	0.535	2.067
	H.K.	11.10	11.40	9.929	8.825	8.664	10.24	13.11	15.12	13.42	13.52	12.76
	Singapore	6.686	8.610	9.239	9.479	9.208	9.749	11.19	12.74	11.47	11.43	12.54
Above middle-tech	Shanghai	6.251	5.133	5.457	8.353	8.849	12.64	12.42	10.20	9.26	12.17	11.06
	H.K.	1.225	1.352	1.236	1.142	1.271	1.075	0.960	0.873	0.881	0.731	0.634
	Singapore	2.023	2.445	3.002	3.658	3.103	2.664	2.487	2.079	2.057	2.762	2.727

### 3.4 Services Export Technology Structure Optimizing Indexes of three regions

The SETCI of a particular service may mean high-tech content in a period, but may mean low-tech content with the time passing and the world technology standards improving generally, namely, Technology height of a kind of service is not only up to the technology content of the service itself, but also to the relative technology content

of other services during the same period. Therefore, Services Export Technology Height Index of j service can be defined as:

$$SETHI_j = \frac{SETCI_j - SETCI_{\min}}{SETCI_{\max} - SETCI_{\min}} \quad (3)$$

Therein, SETHI<sub>j</sub> is SETHI of j service, SETCI<sub>max</sub> and SETCI<sub>min</sub> is the maximum and minimum of SETCIs of all services at the same period.

By using the SETHI, SETSOI of an Economy can be defined as the weights sum of SETHI of the Economy, the weight is international market share of the Economy in various services. The formula is:

$$SETSOI_i = \sum_{j=1}^m SETHI_j \times ES_{ij} \quad (4)$$

The SETSOI of an Economy measures the optimizing and upgrade of service export technology structure (SETS) without the international common technical progress, and reflects the SETS upgrade trend of an Economy contrasting to other Economies – this index increasing means the SETS of the Economy upgrades, otherwise, means the service industry of the Economy is of low-end in the liberalization of services trade. Therefore, the SETSOI has great significance in the International Trade and Development Economics. The SETSOIs of Shanghai, H.K. and Singapore are in Table 6.

Table 6 SETSOIs of Shanghai, H.K. and Singapore during 2000-2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Shanghai	0.0072	0.0090	0.0093	0.0134	0.0173	0.0276	0.0335	0.0323	0.0361	0.0554	0.0674
H.K.	0.0748	0.0876	0.0859	0.0697	0.0637	0.0683	0.0715	0.0701	0.0673	0.0733	0.0826
Singapore	0.0449	0.0570	0.0641	0.0707	0.0690	0.0693	0.0723	0.0748	0.0759	0.0882	0.1056

According to Table 6, from static point of view, SETSOI of Shanghai is significantly lower than those of H.K. and Singapore and indicates that the optimizing extent of SETSO is still far behind H.K. and Singapore; but from dynamic point of view, the SETSOI of Shanghai is rising and increases nearly 8.36 times, H.K. fluctuates and mostly keeps in stagnate, while Singapore increases only 1.35 times, all these indicate that the speed and potential of services exports technology structure optimizing of Shanghai is much higher than these of H.K. and Singapore.

#### 4. CONCLUSION

This paper analyses the service export of Shanghai, H.K. Singapore from 2000 to 2010 by SETCI, SEITLI and SETSOL and concludes that the overall technology level and structure optimization of services export in Shanghai lags behind H.K. and Singapore because of the slow development of Shanghai's high-tech service exports; However, the speed of overall technology level upgrade and structure optimization of services export in Shanghai is much higher than those of H.K. and Singapore, and the gap is rapidly narrowed, because the rapid development of middle-tech services export in Shanghai. Therefore, Shanghai should keep the stable and sustainable

development of middle-tech services export, and try to achieve a breakthrough in the export of high-tech services , for example financial services, copyright and patent licenses, and meets the inevitable requirements of building international financial center and the principal line of ‘Transformation Development with Innovation Drive’.

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# Marketing Management

10:00-12:00, December 16, 2012 (Meeting Room 3)

**1682: Comparison of Culture Creative Industry in Hong Kong, Macau, and Taiwan**

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**Comparison of Culture Creative Industry in  
Hong Kong, Macau, and Taiwan**

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**ABSTRACT**

In recent years, the development of culture creative industry in China gains more and more attentions. The original-concept of culture creative industry was purposed by Australia. Then, British put the concept into practice by establishing the thirteen-department government agencies for the development of culture industry. Besides the British way of culture industry development, China further enriches the concept by including anime, travel and sports. Despite the late start of 1980's along with the social reform and opening. The development of creative industry in China is productive and fruitful: the industry has effectively helped the boost of economy and establishes its solid ground for future achievements. In this paper, we reviewed the development trajectories and the current status of creative industry in Hong Kong, Macau, and Taiwan. We find that the regional, cultural, and economic differences in the three regions have shaped their culture creative industries with their own uniqueness. In spite of the differences of the creative industry for all the three regions we studied, there is an obvious trend for the government to put emphasis on the development of creative industry in nowadays economic development.

Keywords: culture creative industry Hong Kong Macau Taiwan comparison

**1. INTRODUCTION**

In 1994, the Australian government first issued national culture development strategy, and purposed the concept of the creative industry, making the development of creative industry as one of the national strategies. In 1997, the British government officially proposed "the concept of the creative economy", making the creative industry a national key industry. In order to encourage and promote the native contribution to UK's creativity, the British government established the "creative industry special committee". The British creative industries were then divided into 13 of the department, including advertisements, architecture, art and antiques market, handicrafts, design, fashion, film and video, music, the performing arts, publishing, software and computer services, television and radio, and video and computer games. The scholars in China added anime, travel, and sports into the concept of creative industry on the basis of the UK's division.

China's culture industry emerged with reform and opening in 1980s, developed and expended during the establishment of a socialist market economic system and the development of service sector in the 1990's, and become prosperous in the new century. As the national income level gradually improved, people are having an increasing amount of leisure time, people's spiritual and cultural needs have been



greatly raised. Consequently, the market need of creative industry is tremendous. Therefore, it is a good time point to develop the creative industries, stimulate domestic demand effectively, promote the economic growth, and put it into one of economic growth in the 21st century.

As the "Eleven-Five" plan has been fully implemented, the culture industry has become a new and improved features of regional coordinated development. At present, more than two-thirds of the provinces (city, area) have the plan to build "culture province". The development of creative industry has become the key for each region to accelerate economy pattern change and the optimization of industrial structure, propel the course of urbanization, promote the coordinated development of all regions. Many regions have taken various steps to develop creative industries.

## 2. CONTENT

Hong Kong and Macau, as special administrative regions of China, together with Taiwan are committed to developing their own creative industry. Although their own developments went on difference route, their outcomes are pretty much the same by boosting their regional economy.

Hong Kong has been the Asian creative center for a long time, the creative industry is very famous and with extensive influence, such as digital entertainment, movies, design, cartoon, and publication. The Hong Kong SAR government formally proposed the proprietary name of "the creative industries" in 2003, divided creative industry into three categories, 11 industries. The first category is culture art, including the art, antique and handicraft products, music and the performing arts. The second is electronic media, including digital entertainment, film and video, software and electronic calculation, television and radio. The third is design class, including advertisements, building, publishing and printing. Moreover, the creative industry in Hong Kong also includes some specific features such as food, beauty, and tourism.

Among the culture industry in Hong Kong, Music, movie, and TV are the most famous. From the 1980's, Hong Kong has made a series of classic movies and TV shows, such as "The Bund", "The Greed of Man" , "A Better Tomorrow" and so on. Hong Kong movie has become a classic in people's mind, and also made the movie and television industry in Hong Kong reach their peak nationwide.

In recent years, Hong Kong's game industry has been developing rapidly, Hong Kong's Association Game Industry ( HKGIA) holds annual anime exhibition, with the attendance of about three to four hundred thousand people each year. HKGIA has created and managed a 1.1 billion the integration of novels, comic, and games after years of development.

Hong Kong's creative industry not only directly promotes local economics , but also provides creative elements to other industries and economic activities ,which helps other industries increase their profit and consolidate Hong Kong's position as the international trade and finance center. Meanwhile, Hong Kong also pays attention to the all-round development of society, at the time of consolidating its major industries, it attaches great importance to create a favorable social environment in order to cultivate and attract all kinds of the talents. Therefore, the development of Hong Kong's culture creative industry is not just for economy, but also to improve the people's living level, and provide a society which respects the freedom of speech and

protects intellectual property rights.

Macau has more than 400 years of culture fusion history about Chinese and western cultures mainly Portugal.

In recent years, Macau's gambling industry has been developed steadily and gradually become the pillar industry in Macau. The tourism industry based on the gambling industry in Macau is faced with a series of crisis, such as a single tourism structure, the lack of natural resources and insufficient development in the future. At the same time, the proportion of all kinds of the culture industry is very tiny in Macau's current economy. Some enterprises in Macao are small and some are just getting started, no matter the traditional industry, such as movie, publication, music and dance, or the new industry like animation, design, consultation and so on.

In view of this current situation, the Macau government devotes itself to push forward their creative industry including tourism, retailing and exhibition industry, which are related with the gaming industry. Meanwhile, the Macau government aims at transforming and upgrading industry through the development of creative industry. So far, the largest "Macau international trade and investment exhibition" (MIF), about a total of 60000 visitors attended it and reached a 4.3 billion patacs amount within four days. In 2008, the annual number of entry passengers is about 23 million, the number of the annual incoming passenger is about 23 million. Those numbers are more than 40 times as the local population. Only the "personal trip" for the mainland residents to Macau has reached more than 3300 people in the five years, which produced more than 100 billion patacs of not gambling receipts.

At the same time, some famous auction houses entered into the art market in Macau, such as Macao Zhongxin , Macau Choangyuan, and a series of auction as well. By the end of 2008, some famous auction houses from Japan, South Korea and Taiwan also held the "Macau's art auction week" in the Venetian Resort Hotel in Macau.

In May 2002, Taiwan authorities definitely added "Creative industry development plan" into "the challenge 2008: national development key plan (2002-2007)", which marks that the development of creative industry in Taiwan is on the right track. After the development of recent years, Taiwan's culture creative industry gradually expanded and formed its own unique advantages and characteristics.

Taiwan successfully made its traditional handicraft industry evolved into today's creative industry. Wangxiajun, an artist of white porcelain, promoted a "new porcelain revolution" in the new upsurge of culture creativity in Taiwan. He successfully combined the porcelain's inherent gentleness and elegance into the ever-changing modern life and enormous vitality. Finally, he opened up a new way in the traditional industries.

TJ-IBMS was founded in 1990 in Taiwan. At first, their main business was the subsequent animation production. And then they gradually developed into a top-ranking enterprise of computer animation, which not only combined with High-tech means, well-qualified research and development team and international cartoon talents, but also up to international standards.

The culture creative in service industry is a highlight in Taiwan's culture creative industry. There are some brands, such as "Qimin organic Chinese hotpot", "Muqiu

Gold Chinese caterpillar fungus industry house”, “Gulu Gulu cabaret” and “Mulan boutique hotel”, they are all very representative.

As we all know, Taiwan’s media is very flourishing. There are more than one hundred television channels, at the same time, their TV programs, pop music and culture publishing industry all have important positions in China and even in southeast-Asia. Among them, the development of music industry is particularly prominent. To contemporary teenagers, the influence of Taiwan’s pop music is more profound.

### 3. CONCLUSIONS

Culture creative industry can create value, find value, promote value and realize value. Because the development of the creative industry depends on different cultural atmosphere and different economic system, the creative industry in Hong Kong, Macau, and Taiwan, presents different characteristics and the development trajectory. But they all try their best to integrate the emerging creative industries with their own local culture deeply and perfectly, and continuously explore a more suitable development path, so that they can promote the development of regional economy. According to those experiences, in order to develop the creative industry better, we not only need the support of the government to establish a free competition of the market system, but also need to pay more attention to the cultivation of cultural and creative talents, and attract more creative talents to make contributions to the development of creative industry.

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# **Tourism Management**

**10:00-12:00, December 16, 2012 (Meeting Room 3)**

**1759: Research of Tourism Gaze : the Development in Recent Two Decades**

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**Research of Tourism Gaze : the development in recent two decades**

**Yuanyuan Wang**

**ABSTRACT**

Since Mr. John Urry , a British sociologist offered his theory of “Tourist Gaze” in 1992,in the next twenty years, the “gaze” theory has been researched deeply and expended further. The paper systematically reviews the “gaze” theory in tourism studies both at home and abroad, finds that the different kinds of “gaze” theories are based on the power gaps and changes of different stakeholders in the tourist system. It enables us to have a profound understanding of some tourist phenomena. Based on the comment on theoretical studies , the paper puts forward several significant aspects that can be researched more deeply.

Key words: tourism gaze; tourist system; power.