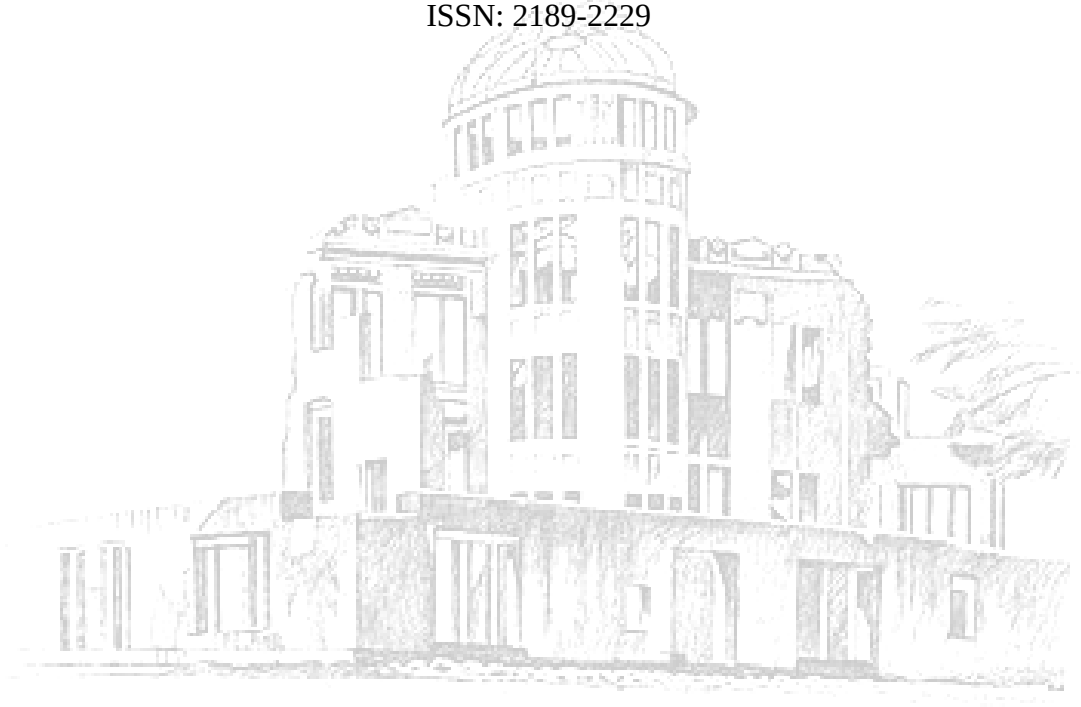
COMSA 2015 Proceedings

The Inaugural Conference on Management and Sustainability in Asia

April 29 to May 1, 2015 at the Mitsui Garden Hotel Hiroshima, Japan

ISSN: 2189-2229



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The PRESDA Foundation of Japan

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The Inaugural Conference on Management and Sustainability in Asia

Hiroshima, Japan, 2015

Official Conference Proceedings

ISSN: 2189-2229

Managing Editor: Professor John Latzo

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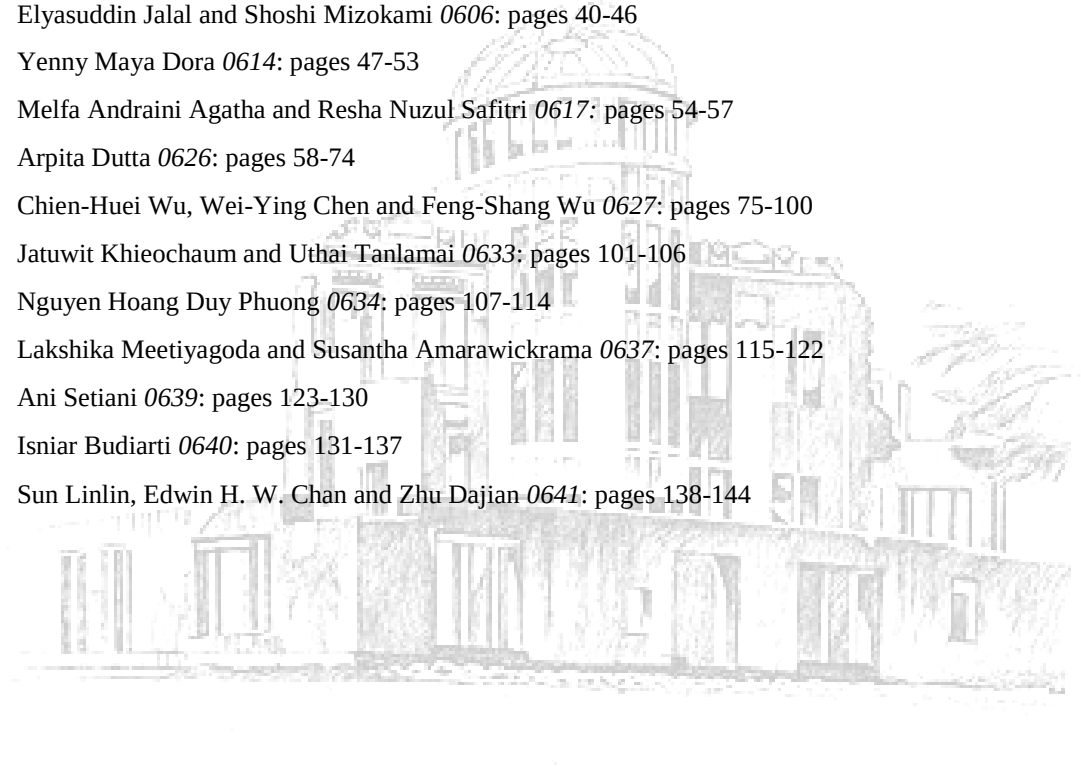

The Inaugural Conference on Management and Sustainability in Asia
The Inaugural Conference on Disaster Response and Management in Asia
April 29-May 1, 2015 at the Mitsui Garden Hotel, Hiroshima, Japan

Dear COMSA/DREAM Colleagues,

Welcome to the Conference on Management and Sustainability in Asia and the Asian Conference on Disaster Response and Management sponsored by the PRESDA Foundation.

We gather here today united by our determination and shared vision of a better world in which management and sustainability take center stage. And it is through this intersection of interests that meaningful discourse and change arise. Your commitment to these objectives and gathering here at the Mitsui Garden Hotel in Hiroshima bring renewed hope and ideas to a continent.

We sincerely thank you for you for your participation in COMSA/DREAM and for broadening the intellectual scope and understanding of disaster response and management as well as management and sustainability in Asia and elsewhere. We hope you enjoy your stay in Hiroshima as well as the city's rich cultural heritage while advancing our shared goals.

Sincerely,

Takayuki Yamada
Chairman, Board of Governors, The PRESDA Foundation (Japan)

T.M. Desmond
Executive Director, Board of Governors, The PRESDA Foundation (Japan)

John Latzo
Chairperson, Editorial Committee
Professor, Division of Humanities, POSTECH (Korea)

Michael Sasaoka
Program Director, COMSA/DREAM 2015
Academic Director, TIER A Research Center (Japan)

The Inaugural Conference on Management and Sustainability in Asia
The Inaugural Conference on Disaster Response and Management in Asia
April 29-May 1, 2015 at the Mitsui Garden Hotel, Hiroshima, Japan

COMSA/DREAM 2015 Acknowledgements

On behalf of the organizing committee we wish to express our deepest appreciation to the following institutions and people:

Host Organization
The PRESDA Foundation of Japan and ESD Focus

Institutional Affiliates
The Venture Greenhouse of Dominican University of California, USA
The Wine Business Institute, Sonoma State University, USA
The Hiroshima Peace Institute, Hiroshima City University, Japan
The Faculty of Agriculture, Maejo University, Thailand
The Department of Economics, University of Guadalajara, Mexico

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Professor Bhimaraya A. Metri, The International Management Institute, India
Professor William Kittredge, Cervelet Management and Strategy Consultants, Thailand

About the Host Organizer
The Pacific Rim Education for Sustainable Development Alliance (PRESDA) was established in 2010. We are an alliance of grassroots non-profit organizations, teachers, business people, and concerned citizens from around Asia and beyond who wish to make a difference. Incorporated under the laws of Japan, the PRESDA Foundation is an independent, not-for-profit foundation helping to fulfill the Millennium Development Goals by the year 2015.

For more information about the PRESDA Foundation and our projects, please visit our homepage at www.presdafoundation.org

Proceedings
In consideration of the environment and our efforts to be carbon-neutral, the proceedings will be published in electronic format only. Normally, the proceedings are published post-conference. An announcement and a downloading link will be sent to all participants when the proceedings are available.

The proceedings for this conference have been approved and assigned an International Standard Serial Number (ISSN) through the Japanese National Centre for ISSN under the auspices of the National Diet Library.

The National Diet Library, which acquires national serial publications exhaustively as the only national and deposit library in Japan, plays a role as the Japanese National Centre for ISSN:

- COMSA 2015 Proceedings ISSN: 2189-2229
- DREAM 2015 Proceedings ISSN: 2189-213x

Miscellaneous Information

ATM
Most convenience stores around Hiroshima have ATMs. Please note that not all ATMs will accept international debit or credit cards. Please see the ATM placard for details.

Banks / Exchanging Money
In Japan, all banks are open Monday to Friday from 9:00 a.m. to 3:00 p.m. Please check with the front desk for directions to the nearest bank, which suits your needs.

Designated Hotel
All sessions will be held at the Hiroshima Mitsui Garden Hotel

Address: 9-12 Nakamachi, Naka Ward, Hiroshima City, Hiroshima Prefecture, Japan 730-0037
TEL: 082-240-1131 / FAX: 082-242-3001
URL: http://www.gardenhotels.co.jp/eng/hiroshima/access/

Access
- 15 minutes from Fukuromachi stop by streetcar from JR Hiroshima Station.
- 10 minutes on foot from the Hiroshima City Bus Center

Dress
The expected dress code for the conference is business casual.

Climate
Hiroshima has a humid subtropical climate that is mild with no dry season (rainfall is generally year-round). Summers tend to be hot and muggy with thunderstorms. Winters are mild with precipitation. Seasonality is moderate.

Equipment
Oral and virtual presentation rooms are equipped with a screen, projector and a computer. The computer has Windows OS. Sound equipment and speakers are also available as is technical support.

Poster presenters will be provided with an easel, poster-board, tape and thumb pins. Posters must be size A0 (A Zero). Common dimensions for posters are A0 47 x 33 inches (118cm x 84cm).

Please be mindful of panel presentation start and finish times, so that the next presenter has adequate time to prepare.

Internet
Wi-Fi Internet access is available on the presentation 3rd floor of the Mitsui Garden Hotel. If you are having difficulty with the Wi-Fi please inform the hotel. The organizers have no control over the Wi-Fi access.

Printing / Photocopying
The Family Mart and 7-11 convenience stores next to the hotel both have photocopy machines. Also, there is a copier in the Mitsui Garden Hotel lobby. Printing and photocopying charges will apply.

Session Time Moderators
The organizers will arbitrarily select two time moderators per panel to make sure that each presenter starts and finishes on time. The session time moderator only needs to alert the presenter when five minutes is remaining in the presentation. It is not necessary for the time moderator to introduce the presenters.

Session Panel Guidelines
Session times are clearly marked on the schedule. Presentations should be given in the order indicated.

If a presenter is absent or arrives late, the session time moderators should allow the next presenter to start. Those arriving late will be given an opportunity to present at the end of the session, only if extra time remains.

The Inaugural Conference on Management and Sustainability in Asia
The Inaugural Conference on Disaster Response and Management in Asia
April 29-May 1, 2015 at the Mitsui Garden Hotel, Hiroshima, Japan

Conference Schedule Overview

Day 1: Wednesday, April 29, 2015

Commencement will be held in Moegi

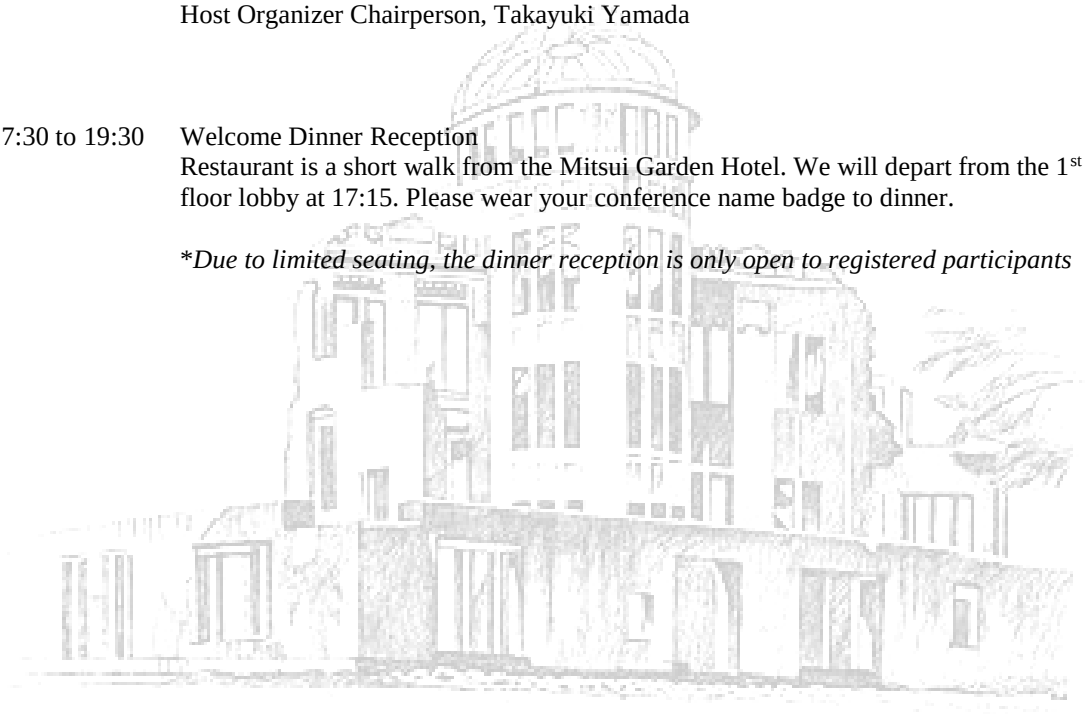
14:30 to 15:45 Participant Check-in
(Program, Official Receipt and Name Badge)
Location: Mitsui Garden Hotel 3rd Floor Lobby

16:00 to 16:45 COMSA/DREAM Commencement
Held in the Moegi room on the 3rd floor

Introduction by the host organizer (The PRESDA Foundation)
Host Organizer Chairperson, Takayuki Yamada

17:30 to 19:30 Welcome Dinner Reception
Restaurant is a short walk from the Mitsui Garden Hotel. We will depart from the 1st floor lobby at 17:15. Please wear your conference name badge to dinner.

**Due to limited seating, the dinner reception is only open to registered participants*



Day 2: Thursday, April 30, 2015

All sessions will be held in the Moegi, Asagi and Hakuho West rooms

08:30 to 09:00	Participant Check-in (Program, Official Receipt and Name Badge) Location: Mitsui Garden Hotel 3rd Floor Lobby
09:00 to 10:30	Oral Session A: Urban Planning and Risk Management Issues Room: Asagi Presenters: 0606, 0628, 0641
09:00 to 10:30	Oral Session B: Perspectives on Management and Sustainability Room: Moegi Presenters: 0638, 0635, 0623
10:45 to 12:15	Oral Session C: Perspectives on Disaster Response and Management Room: Asagi Presenters: 0505, 0507, 0521
10:45 to 12:15	Oral Session D: Economics and Sustainable Innovations Room: Moegi Presenters: 0633, 0624, 0615
12:30 to 13:30	Lunch at the Confrere Restaurant Location: 25th Floor, Mitsui Garden Hotel **An additional charge of JPY1900 will be required for non-registered guests*
13:30 to 13:45	Recess
13:45 to 15:45	Oral Session E: Disaster Relief, Resilience and Research Room: Asagi Presenters: 0502, 0514, 0516, 0524
13:45 to 15:45	Oral Session F: Perspectives on Environmental Management and CSR Room: Moegi Presenters: 0616, 0609, 0626, 0631
16:00 to 17:00	Poster/ Networking Session Room: Hakuho West Presenters: 0509, 0525, 0617, 0627, 0634 *Reception will serve hors d'oeuvres, coffee, water and tea*

Day 3: Friday, May 1, 2015

All sessions will be held in Moegi and Asagi Rooms

08:00 to 9:00 Virtual Panel I: Management and Sustainability
Room: Asagi
Presenters: 0614, 0630, 0637, 0639, 0640, 0645

08:00 to 9:00 Virtual Panel II: Disaster Response and Management
Room: Moegi
Presenters: 0506, 0508, 0522

9:00 to 9:30 Featured Presentation: Dag Petersson, Royal Academy of Fine Arts, Denmark
Room: Moegi

9:30 to 9:40 Questions and Answers

9:40 to 09:50 Closing Remarks

10:00 to 16:00 UNESCO World Heritage tour of the 'Shrine Island' (Miyajima)*
**Includes round trip transportation, park fee, cake and tea and guidance in English*
Departing from the Mitsui Garden Lobby at 10:00

About Miyajima Island "The Shrine Island"

Miyajima Island is the popular name of Itsuku-shima Island, situated in Hatsukaichi City in southwestern Hiroshima. It is a scenic site in which the mountains, sea, and red shrine buildings blend together in harmony. The entire island is designated as a UNESCO World Heritage Site. It is said to be one of the three most beautiful sights in Japan, along with Matsushima in Miyagi Prefecture and Ama-no-hashidate in Kyoto. The origin of Miyajima is said to date back to when the Itsuku-shima-jinja Shrine was built in 593 during the reign of Empress Suiko; however, the island of Miyajima itself has had a long history of being an object of worship, especially its Mt. Mi-sen that rises up at the center of the island.

Day 1: Wednesday, April 29, 2015

Opening Remarks and Welcome Dinner

14:30 to 15:45
Participant Check-in
(Program, Official Receipt and Name Badge)
Location: Mitsui Garden Hotel 3rd Floor Lobby

16:00 to 16:45
COMSA/DREAM Commencement
Held in the Moegi room on the 3rd floor

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Host Organizer Chairperson, Takayuki Yamada

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Restaurant is a short walk from the Mitsui Garden Hotel. We will depart from the 1st floor lobby at 17:15. Please wear your conference name badge to dinner.

**Due to limited seating, the dinner reception is only open to registered participants*

Day 2: Thursday, April 30, 2015

09:00 to 10:30

Oral Session A: Urban Planning and Risk Management Issues

Room: Asagi

Presenters: 0606, 0628, 0641

Session Time Moderators: Elysauddin Jalal and Linlin Sun

09:00 to 09:30
0606 **Overview of Urban Management in Kabul, Afghanistan**
Elyasuddin Jalal, Dept. of Civil and Environmental Eng., Kumamoto University[1]
Shoshi Mizokami, Dept. of Civil and Environmental Eng., Kumamoto University[2]

09:30 to 10:00
0628 **The Business Model Innovation for Carbon Capture and Storage**
Chun-Chiao Yeh , National Taipei University, Republic of China (Taiwan)[1]
Chien-Ming Lee, National Taipei University, Republic of China (Taiwan)[2]

10:00 to 10:30
0641 **The Issues of Urban NIMBY Conflict Management in China**
Linlin Sun, The Polytechnic University, Hong Kong[1]
Edwin H.W. Chan,The Polytechnic University, Hong Kong[2]
Dajian Zhu, Tongji University, Shanghai, P.R. China[3]

Day 2: Thursday, April 30, 2015

09:00 to 10:30

Oral Session B: Perspectives on Management and Sustainability

Room: Moegi

Presenters: 0638, 0635, 0623

Session Time Moderators: Erik Armundito and Sergei Krivov

09:00 to 09:30
0638 **Baseline Analysis of Productivity Changes with and without Considering Carbon Dioxide Emissions in the Indonesia's Manufacturing Sector**
Erik Armundito, Hiroshima University, Japan[1]
Shinji Kaneko, Hiroshima University, Japan[2]

09:30 to 10:00
0635 **Developing a Double Sampling Plan Based on Cost Model**
Ching- Ho Yen, Huafan University, Taiwan[1]

10:00 to 10:30
0623 **The Policy of Multiculturalism in the Countries of South-east Asia: Opportunities of Practical Applications**
Sergei Krivov, Lobachevsy State University, Russian Federation[1]

Day 2: Thursday, April 30, 2015

10:45 to 12:15

Oral Session C: Perspectives on Disaster Response and Management

Room: Asagi

Presenters: 0505, 0507, 0521

Session Time Moderators: Yu-Min Wang and Abhay Joshi

10:45 to 11:15
0505 **Unmanned Aerial Vehicles for riverbed material monitoring at Shi-wen River, Taiwan**
Yu-Min Wang, National Pingtung University of Science and Technology, Taiwan[1]
Samkele Tfwala, National Pingtung University of Science and Technology, Taiwan[2]

11:15 to 11:45
0507 **Disaster Risk Reduction Management in Region XI: Issues and Challenges**
Maribel S. Lanticse, Jose Maria College, Philippines[1]

11:45 to 12:15
0521 **Post Tsunami Aid and Pre-tsunami Community Role for Government Led Relocation Policies. A Case Study of Tamail Nadu State India**
Abhay Joshi, Kanazawa Seiryo University, Kanazawa, Japan[1]
Megumi Nishimura, Kanazawa Seiryo University, Kanazawa, Japan[2]

Day 2: Thursday, April 30, 2015

10:45 to 12:15

Oral Session D: Economics and Sustainable Innovations

Room: Moegi

Presenters: 0633, 0624, 0615

Session Time Moderators: Jatuwit Khieochaum and Chia-Hui Huang

10:45 to 11:15
0633 **The Effects of Financial Statements' Reliability and Risk Attitude to Cost of Debt for the SMEs Loan: Evidence from Thailand.**
Jatuwit Khieochaum, Chulalongkorn University, Thailand[1]
Uthai Tanlamai, Chulalongkorn University, Thailand[2]

11:15 to 11:45
0624 **Innovation Quantity and Quality: Firm-Level Evidence in Taiwan**
Chia-Hui Huang, Aletheia University, Taiwan[1]
Tony Chieh-Tse Hou, National Dong Hwa University, Taiwan[2]

11:45 to 12:15
0615 **The Scientific Linkage between Patents and Firm Productivity: Evidence from Taiwanese Electronics Firm Level Panel Data**
Jong-Rong Chen, Professor Graduate Institute of Industrial Economics National Central University Chungli, Taiwan and Joint Appointment Research Fellow Research Certer for Humanities and Social Sciences Academia Sinica Taipei, Taiwan[1]

Welcome Lunch
12:30 to 13:30

Join us for a buffet style lunch at the Confrere French restaurant located on the 25th floor of the Mitsui Garden Hotel.

Day 2: Thursday, April 30, 2015

13:45 to 15:45

Oral Session E: Disaster Relief, Resilience and Research

Room: Asagi

Presenters: 0502, 0514, 0516, 0524

Session Time Moderators: Yoko Kobayashi and Siegfried Kiel Sañez

13:45 to 14:15
0502 **Research of Development Program which Develops Energy to Fight against Adverse Circumstances**
Yoko Kobayashi,University of Tsukuba, Japan[1]
Tsunetsugu Munakata, University of Tsukuba, Japan[2]

14:15 to 14:45
0514 **Psychosocial Support in Disaster Situations in the Philippines and Indonesia: A Critical Literature Review**
Fuad Hamsyah, Universitas Gadjah Mada, Indonesia[1]

14:45 to 15:15
0516 **Healing and Recovery: Art in the Time of Disaster**
Joseph Sedfrey S. Santiago, Ateneo de Manila University, Philippines[1]

15:15 to 15:45
0524 **Two Years after Tropical Storm Washi: Implications of Shared Responsibility for Disaster Recovery on Post-disaster Resettlementes**
Siegfried Kiel B. Sañez, Ateneo de Manila University, Philippines[1]
Marion Lara L. Tan, Ateneo de Manila University, Philippines[2]
Wilfred S. Manuela, Jr., Ateneo de Manila University, Philippines[3]
J. Sedfrey S. Santiago, Ateneo de Manila University, Philippines[4]

Day 2: Thursday, April 30, 2015

13:45 to 15:45

Oral Session F: Perspectives on Environmental Management and CSR

Room: Moegi

Presenters: 0616, 0609, 0626, 0631

Session Time Moderators: Nares Chuersuwan and Caroline S.L. Tan

13:45 to 14:15
0616 **The Energy-efficiency Analysis of Companies in Korea Using DEA**
Ha Na Moon, Ewha Womans University, Korea[1]
Dai-ki Min, Ewha Womans University, Korea[2]

14:15 to 14:45
0609 **Air Emission Inventory at Municipality Level in Thailand: The Basis of Air Quality Management**
Nares Chuersuwan, Suranaree University of Technology, Thailand[1]

14:45 to 15:15
0626 **Green Technology for Sustainable Development**
Arpita Dutta, AMA International University, Bahrain[1]

15:15 to 15:45
0631 **Food Related CSR Initiatives Post-3.11: When Risk and Trust Affect Consumer Behavior**
Caroline S.L. Tan, University of Tsukuba, Japan[1]

Day 2: Thursday, April 30, 2015

16:00 to 17:00

Poster Session A
Room: Hakuho West

Presenters: 0509, 0525, 0617, 0627, 0634

**Posters for Session A should be setup between 15:30 and 16:00. Poster boards, tape and tacks will be provided.*

School Disaster Management
0509 **Study on the Context of School Disaster Management in Taiwan**
Jieh-Jiuh Wang, Ming Chuan University, Taiwan[1]

Disaster Response and Management
0525 **Public Hospital Emergency Unit (ER) Preparedness to Manage External Disasters in Denpasar District – Bali, Indonesia**
Edwind Rakatama Fahlevie, Udayana University, Indonesia[1]
Muhammad Faisal P Utomo, Udayana University, Indonesia[2]
Pande Mirah Dwi Anggreni, Udayana University, Indonesia[3]
Ni Kadek Nita Utami, Udayana University, Indonesia[4]

Social Sustainability
0617 **SPR (Livestock School Public) as Form by Student To Reach Social Sustainibility**
Melfa Andraini Agatha, Bogor Agricultural University, Indonesia[1]
Resha Nuzul Safitri, Bogor Agricultural University, Indonesia[2]

Sustainability Reporting
0627 **Measuring and Explaining Government Performance in Developing Solar Electricity Markets**
Wei-Ying Chen, National Chengchi University, Taiwan[1]

Strategic Management
0634 **Acculturation and Job Satisfaction among Vietnamese Graduates Working in Japan**
Nguyen Hoang Duy Phuong, Ritsumeikan Asia Pacific University, Japan[1]

Day 3: Friday, May 1, 2015

08:00 to 9:00

Virtual Panel I
Room: Asagi

Management and Sustainability: 0614, 0630, 0637, 0639, 0640, 0645

Sustainable Business
0614 **The Development Concept of Value, Value Creation and Customer Value Creation**
Yenny Maya Dora, Widyatama University, Indonesia[1]

Supply Chain Management
0630 **Necessity of Reverse Supply Chains for a Sustainable Modern Economy- A Review**
Chetan V. Hiremath, Kirloskar Institute of Advanced Managment Studies,Harihar, India[1]
Patil S.C, Rani Chennamma University, Belagavi, India[2]

Urban Planning and Management
0637 **Planners' Role Need to be Theorized?**
Lakshika Meetiyagoda, University of Moratuwa, Sri Lanka[1]
Susantha Amarawickrama, University of Moratuwa, Sri Lanka[2]

Human Resource Management
0639 **The Development of Climate Models Based Organization Sundanese Cultural Values**
Ani Setiani, Pasundan University, Indonesia[1]

Human Resource Management
0640 **The Development of Dimensions Organization Culture**
Isniar Budiarti, University Computer Indonesia[1]

Sustainable Development
0645 **Analysis of Regional Cooperation for a Greener South Asian Economy: A Game Theoretic Approach**
Saleh Reza, Daffodil International University, Bangladesh[1]
Rabiul Islam Rabi, University of Dhaka, Bangladesh[2]
Sazid Raihan, North South University, Bangladesh[3]

Day 3: Friday, May 1, 2015

08:00 to 9:00

Virtual Panel II
Room: Moegi

Disaster Response and Management: 0506, 0508, 0522

Disaster ICT and Emergency Communications
0506 **Application of Information Technology in Emergency and Natural Disaster Management**
Zijadin Krasniqi , Tax Administration of Kosovo, Kosovo[1]

Role of Media in Disaster Response and Management
0508 **CyberHaiyanihan: The Use of #RescuePH and #ReliefPH in Twitter during Super Typhoon Haiyan (a.k.a. Yolanda)**
Mariam Jayne Agonos, University of the Philippines, Diliman[1]
Pauline Jane Celerio, University of the Philippines, Diliman[2]
Eunice Francesca Elazegui,University of the Philippines, Diliman[3]
Karisha Anne Cruz (Graduate), University of the Philippines, Diliman[4]

Disaster Response and Management
0522 **Evacu…wait?: A Study on the Reception of Evacuation-related Information**
Angelo de Jesus, University of the Philippines Diliman, Philippines[1]
Marrhon Mangalus, University of the Philippines Diliman, Philippines[2]
Isabella Perez, University of the Philippines Diliman, Philippines[3]
Kara Gengania, University of the Philippines Diliman, Philippines[4]
Mark Vincent Sing, University of the Philippines Diliman, Philippines[5]

Day 3: Friday, May 1, 2015

9:00 to 9:30

Featured Presentation
Room: Moegi

0510 **Rethinking Disaster Sciences: A Philosophical Approach**
Dag Petersson, Royal Academy of Fine Arts, Copenhagen, Denmark[1]

Coffee, tea, water and light snacks will be served

9:30 to 9:40

Questions and Answers

9:40 to 9:50

Closing Remarks

10:00 to 16:00
Miyajima Tour

**Included with your registration fee*

Sponsored by the PRESDA Foundation
www.presdafoundation.org

Miyajima is considered one of the top three views of Japan and a must-see for visitors to Hiroshima. The tour includes round trip transportation, entrance fee and guidance in English by a professional, bilingual tour guide. In addition, participants will visit a Japanese teahouse on the island for a cup of hot green tea and traditional Japanese cake.

Please come to the Asagi room at 9:30 to receive your train pass and information. The tour will depart from the Mitsui Garden Hotel 1st floor lobby at 10:00.
We suggest that you wear comfortable walking shoes and a hat.

Please note that the tour does not include lunch. We suggest purchasing food and drinks at the 7-11 convenience store next to Miyajima Port or you can eat at one of the many restaurants on the island.

About Miyajima Island "The Shrine Island"

Miyajima Island is the popular name of Itsuku-shima Island, situated in Hatsukaichi City in southwestern Hiroshima. It is a scenic site in which the mountains, sea, and red shrine buildings blend together in harmony. The entire island is designated as a UNESCO World Heritage Site. It is said to be one of the three most beautiful sights in Japan, along with Matsushima in Miyagi Prefecture and Ama-no-hashidate in Kyoto. The origin of Miyajima is said to date back to when the Itsuku-shima-jinja Shrine was built in 593 during the reign of Empress Suiko; however, the island of Miyajima itself has had a long history of being an object of worship, especially Mt. Mi-sen which rises up at the center of the island.

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Conference Abstracts

0606 **Overview of Urban Management in Kabul, Afghanistan**
Elyasuddin Jalal, Kumamoto University, Japan[1]
Shoshi Mizokami, Dept. of Civil and Environmental Eng., Kumamoto University[2]

Kabul city (capital of Afghanistan) has recovered from the three decades of war. In addition, the city's population has increased dramatically in the last decade and managing such a city is a challenge by itself. US and International community has largely focused on urban reconstruction of the post conflict Kabul city. However, In order to bring about sustainable development, sound urban management is essential. This paper reviews the current state of urban management in Kabul city, with a specific focus on the relationship between governmental authorities and methodology for master plan's implementation. It investigates each urban governmental authority and earlier developed master plans of the city, consequently identifies the major gaps in the city's urban management. The overall analysis suggests that there is a serious need for an alternative urban administrative structure as well as introducing land use regulations and gradually building up the capacity of urban government institutions. In addition this paper highlights the two discussing alternatives for a viable administrative structure namely Kabul metropolitan development council (KMDC) and Kabul metropolitan government (KMG). The findings of this paper should provide a clear guideline to the city's responsible authorities on how to strengthen and reform urban management institutions plus what are the important steps to be taken in their city planning. Though urban management is not a simple exercise and criteria of accountability is supreme across all these areas but this study will open the hidden puzzle for further research.

0609 **Air Emission Inventory at Municipality Level in Thailand: The Basis of Air Quality Management**
Nares Chuersuwan, Suranaree University of Technology, Thailand[1]

Air emissions from point, area, road, and non-road sources were estimated for the first time in the fifth largest municipality in Thailand, Nakhon Ratchasima Municipality (NRM). Local specific data were acquired directly from relevant sources. Supplemental data were used when no local data were available. Point sources included industry, waste incinerator, boiler, and crematorium. Area sources were petrol station, shrine, construction, agricultural burning, household and commercial sources. Road transport sources composed of vehicle emissions from highway, main road, side street, and bus depot while a non-road source was train. The estimation of road transport source was performed with MOBILEV program that have been used in governmental agency in Europe but the emission data based on Thailand vehicle emission data. The concerned pollutants were particulate matter, oxide of nitrogen, carbon monoxide, sulfur dioxide and non-methane hydrocarbon. Source survey, questionnaire, and traffic count were the primary mean of data gathering while emission factors were acquired based primarily on local data coupled with international database from U.S. EPA, AP-42, and EU, CORINAIR. The results showed that road source was the largest contributor of carbon monoxide (16,146 ton/yr), oxide of nitrogen (1,873 ton/yr), and non-methane hydrocarbon (3,298 ton/yr). Industrial point source emitted high particulate matter (283 ton/yr) and sulfur dioxide (8 ton/yr). Local administrators were informed and the local public was consulted with this scientific information as part of the process of air quality management plan. Implementation of a public transportation system was introduced as a sustainable alternative for NRM including source control.

0614 **The Development Concept of Value, Value Creation and Customer Value Creation**
Yenny Maya Dora, Widyatama University, Indonesia[1]

The purpose of this paper to see the development of the definition of the concept of value, value creation and customer value creation that has been published in journals indexed and generate new concepts of value, value creation and customer value creation. Formulation of the problem of thispaper is to compare the concept of value creation that is used in research to identify the ten (10) of the journal contains an explanation of value creation, value and customer value creation during the period 1997-2014. The approach used to assess the concept of value creation is to compare the concept of value creation of some experts that have been tested in the study. Implications to be derived from this analysis is the concept of value creation that is more oriented to the ability of the company's sustainable competitive advantage. The original contribution of this paper will generate a new concept concerning the definition of the concept of value, value creation and customer value creation. Keywords: Value, Value creation, Customer Value Creation, competitiveness, and concepts.

0615 **The Scientific Linkage between Patents and Firm Productivity: Evidence from Taiwanese Electronics Firm Level Panel Data**
Jong-Rong CHEN Professor Graduate Institute of Industrial Economics National Central University Chungli, Taiwan and Joint Appointment Research Fellow Research Certer for Humanities and Social Sciences Academia Sinica Taipei, Taiwan[1]

Using a unique panel data of the electronics firms listed on the Taiwan Stock Exchange, this paper explores the scientific linkages between patents held by the firm and its productivity performance. That is, if the increases in knowledge spillovers from academia to the private sector bring about a contribution to firm productivity? From the previous studies, it can be seen that knowledge spillovers from academia to industry have an influence on firms' abilities of technological innovation. However, there is not a great body of research regarding how a firm's patent citations to scientific publications impact its productivity. Most of the existing studies explore how scientific linkages affect a firm's inventive productivity. In this study, there are five models of citation variables defined according to different citation information. In addition, four levels of scientific linkage can be defined according to scientific contents for the first four models where citation variables include scientific publications. As for the econometric consideration, we adopt a two stage least square (2SLS) method with instrumental variables to reduce the bias caused by the endogenous problem of patent citation data. The empirical results confirm that the firms' lagged internal liquidity constraints are good instrumental variables and that the scientific publications cited by the patents contribute significantly to the firms' productivity, especially the publications which are found in the ISI-Web of Science database.

0616 **The Energy-efficiency Analysis of Companies in Korea Using DEA**
Ha Na Moon, Ewha Womans University, Korea[1]
Dai-ki Min, Ewha Womans University, Korea[2]

This paper suggests energy efficiency which can be the foundation on corporate profit and effective energy management following by change of global climate and of energy-related regulations. Using comparable financial information and information related to energy use, an DEA(Data Envelopment Analysis) model has been used to identify energy efficiency with DMU(Decision Making Unit)s which are Korean companies subjected to reduce greenhouse gas emission in 2009 and 2010 by the law of Korean GHG and Energy Target Management. Through this research, different from existing researches, environmental variables which can influence on energy efficiency are identified. The results show as follows. First, most of companies follow IRS(Increasing Returns to Scale), which means scale of economy exists among units so that they have more opportunity to increase efficiency by increasing scale of inputs. Second, this research identified that depending on the difference of environmental characters such as the emission structure and the size of enterprises, energy efficiency of the companies turns out differently. Emission structure is specified and tested as different kinds of emission like as direct, indirect, and process emission and so on. This gives relative managers or executives some idea that they can have different energy strategies according to their own environmental condition.

0617 **SPR (Livestock School Public) as Form by Student To Reach Social Sustainibility**
Melfa Andraini Agatha, Bogor Agricultural University, Indonesia[1]
Resha Nuzul Safitri, Bogor Agricultural University, Indonesia[2]

Indonesia is one of the richest country with the natural resources. Most of them is potential area and that is abundant where in remote areas and didn't optimalized by society. Livestock School Public or we called SPR (Sekolah Peternakan Rakyat) is one of institutions that facilitating in learning process which is applicative, participatory, systematic and structured to achieving independence and sovereignty rancher the people by way of provision of access to information science and technology and strengthening control production and post livestock production. In this achievements , SPR make the program which is develop and provided assistance through expert and college students .The student organisations that have a role in its upward course SPR is SMART (Social Movement on to Animal Research and Teaching) which is located in the Faculty of Animal Science Bogor Agricultural University Indonesia. The form of assistance as SMART action is expected to develop and attract more interest the breeders in this is particularly students as the agent of change. Students have important roles in the social sustainibility and food security because student as the facilitators in the life of community empowerment programs in the village and society. Keyword: SPR, smart, livestock commodities, the sustainability of social student

0623 **The Policy of Multiculturalism in the Countries of South-east Asia: Opportunities of Practical Applications**
Sergei Krivov, Lobachevsy State University, Russian Federation[1]

Since the mid-1960`s there is a socio-political concept of multiculturalism. In the early 1970's in Australia and Canada, and then in a number of European countries, this approach has practical application. On the basis of this doctrine was developed some practical technologies for managing diversity. Despite the growing criticism of multiculturalism in Western countries, some scientists assert the possibility of their use in non-Western societies. Among them: Sudanese scientist Abdullahi Ahmed an-Na'im, Malaysian Anwar Ibrahim and Indonesian Abdurrahman Wahid. In 1969, Malaysia was the first in the region attempted to pursue domestic political course based on a policy of diversity management. Since that time, have continued discussions on the prospects of such approaches in the various countries of the region. First, as a "crossroads of civilizations", South-East Asia has very complex religious-cultural landscape. With the widespread growth of the activity of religious movements existing trouble spots could develop into a zone of open political conflict. Second, economic growth and modernization in the region contribute to the growth of migration flows. In these circumstances, the host society must have the mechanisms of adaptation of the newcomers. The main conclusion is that capacity and the expected degree of such policy effectiveness in the region will depend on the willingness of the countries of the region to social and political innovation.

0624 **Innovation Quantity and Quality: Firm-Level Evidence in Taiwan**
Chia-Hui Huang, Aletheia University, Taiwan[1]
Tony Chieh-Tse Hou, National Dong Hwa University, Taiwan[2]

Taiwan has become one of the most successful NIEs in the world over the past three decades regarding technological performance. In the technological development process, the Statute for Upgrading Industries (SUI), which applies tax incentives, subsidies, and supporting measures to assist firm performance, is considered one of the most significant policies for Taiwan's industrial technology firms. However, the tax credit policy that forms part of the SUI expired at the end of 2009. Whether Taiwan's innovative capability has declined have important implications for Taiwan, because it helps the government to make new technology policy to encourage innovations, and then contribute to the sustainable growth. Therefore, the primary aim of this paper is an analysis of the determinants of innovation output and the trend of innovation productivity during 2007-2012 for Taiwanese manufacturing firms. We employ the number of patent count and invention patent to be the innovation output, and also use the number of patent citation to be the innovation quality. The empirical results show that firm R&D, firm size and capital intensity have significantly positive effect on firm innovation output. Moreover, from quantity perspective, innovation productivity is steady increase; while from the quality perspective, the Taiwanese firms innovation productivity is decrease. We also find the quality of innovation productivity is decrease sharply after the end of 2009, it implies that the expiration of SUI has significantly negative impact for firm innovation capability. Therefore, Taiwan government should continuance to promote a good tax assist policy to help firms' innovation activities.

0626 **Green Technology for Sustainable Development**
Arpita Dutta, AMA International University, Bahrain[1]

After two centuries of unprecedented growth and economic expansion, our planet is bearing the fruits of rapid industrialization and excessive urban development, in the form of global warming, climate change and increasing pollution levels. Sustainable Development has emerged as the most viable and practical model for human activity, that ensures the protection as well as progress of the three main stakeholders i.e., the economy, the ecology and the community. Green Technology is at the fore-front of this global movement towards Sustainable Development, and is particularly relevant in the case of the Kingdom of Bahrain. The main goal of this research is to understand the status and level of effectiveness of the implementation of Green Technology among the selected companies in the Kingdom of Bahrain. The study also uncovers the difference in perception about the status and the actual effectiveness in the implementation. The results showed that whilst respondents attached a high level of importance to the status of Green Technology, the level of effectiveness was gauged to be not very effective. Several problems and challenges were brought forth which are hampering the process of effective implementation of Green technology projects. The study confirmed the hypothesis that there was very less difference in the perception amongst the respondents pertaining to status and level and effectiveness of implementation of Green Technology among the selected companies in the Kingdom of Bahrain.

0627 **Measuring and Explaining Government Performance in Developing Solar Electricity Markets**

Wei-Ying Chen, National Chengchi University, Taiwan[1]

This paper evaluates the productivity of solar power markets in countries with developing solar power markets. It does so by investigating the extent to which governments can decrease support while maintaining electricity utilization levels, and increase solar power generation while decreasing CO2 emissions. To address both issues with a view to improving energy utilization efficiency, this paper evaluates the performances of 25 selected countries against a Non-Separable DEA model (a DEA measure with non-separable desirable and undesirable outputs for evaluating efficiency). Panel data covering the period 2009 - 2012 reveals that in terms of pure technical efficiency, developing countries are slightly better of, on average, than developed countries, though in terms of overall efficiency, developed countries appear to be significantly more efficient. The findings of this paper highlight that inefficient countries could catch up with their peer groups and become more efficient by (1) stimulating liberalization of electricity markets and competition in a regulated-network environment and (2) increasing the complementary service infrastructure in conjunction with incentive mechanisms.

0628 **The Business Model Innovation for Carbon Capture and Storage**

Chun-Chiao Yeh, National Taipei University, Republic of China (Taiwan)[1]
Chien-Ming Lee, National Taipei University, Republic of China (Taiwan)[2]

Carbon capture and storage (CCS) is an effective clean coal technology for mitigating greenhouse gas emissions around the world. However, the cause of uncertainty of carbon price and investment irreversibility will postpone investment activities known as investment paradox. The purpose of this research is to establish an innovative business model for stimulating CCS investment activities. This study uses real options to assess the efficiency of business model under carbon price uncertainty. The results are as following: 1. The operation grant is the most efficient policy for encouraging CCS investment to overcome the investment paradox. 2. We should adopt CO2 utilization strategy under a high carbon price scenario. 3. We should adopt a low carbon power rate strategy under a low carbon price scenario. 4. The reasonable prices for CCS commercial operations are NT$ 318 per ton for CO2 utilization and NT$ 0.90 per kWh for low carbon power rate.

0630 **Necessity of Reverse Supply Chains for a Sustainable Modern Economy- A Review**

Chetan V. Hiremath, Kirloskar Institute of Advanced Managment Studies, India[1]
Patil S.C, Rani Chennamma University,Belagavi,India[2]

The challenges of market economy have forced companies to design not only better products but also better delivery and distribution networks. Over a period of time companies started using the same networks to collect defective parts and products from end customers, in a reverse direction. These networks not only transport used-products for reuse, repairing, remanufacturing or recycling, but also have service components like repairs, maintenances, recalls, etc. (Álvarez et al 2007;Harrison & Van Hoek 2008). Today these networks have emerged as a fully integrated closed loop networks. The most recently amended scope of logistics and supply chain management by the Council of Supply Chain Management Professionals (CSCMP 2009) includes both the forward and reverse goods flow. Also, such networks have helped organisations fulfil their regulatory requirements and environmental concerns. Though costlier to establish such closed loop networks, they help in increasing the overall business profitability and make companies "greener" (Brodin 2002 as cited in Yin Wei 2011; Blumberg 2005). Today even the city municipalities are using these networks to convert "waste into wealth". This paper reviews the evolution and applications of these closed loop supply chains, which are also popularly referred to as reverse logistics and supply chains.

0631 **Food Related CSR Initiatives Post-3.11: When Risk and Trust Affect Consumer Behavior**
Caroline S.L. Tan, University of Tsukuba, Japan[1]

Corporate social responsibility has long become a necessity for corporations as it responds to stakeholders' pressure for being socially responsible. Nielsen conducted a corporate social responsibility study in 2014 and the results showed that 64% of the Asia-Pacific respondents indicated their willingness to pay extra for products and services that are committed to positive social and environmental impact. In 2013, Yoshinoya announced that it will start cultivating rice and other vegetables through a joint-venture with local farmers in Fukushima with an investment of ￥10 million beginning 2014. Seven-Eleven and other food companies switched to using produce from Fukushima. This move was aimed at lowering costs and improving the supply chain and at the same time contribute to the reconstruction of Fukushima post 3.11. Using the Theory of Planned Behavior this study examines consumers' attitude towards such CSR initiatives and its impact on consumer behavior. While previous studies show that CSR initiatives has been found to be positively influencing consumer behavior, the findings of this study proved otherwise. The results indicate that factors of trust and perceived risk play a major role in determining consumption and purchase decisions. Interestingly, the element of personal impact and implication influenced the consumers' decisions and showed that unlike the majority of CSR initiatives that proved to be success stories, such decision could bring about both a positive and negative effect.
Keywords
Corporate Social Responsibility, Trust, Perceived Risk, Consumer Behavior, Theory of Planned Behavior

0633 **The Effects of Financial Statements' Reliability and Risk Attitude to Cost of Debt for the SMEs Loan: Evidence from Thailand**
Jatuwit Khieochaum, Chulalongkorn University, Thailand[1]
Uthai Tanlamai, Chulalongkorn University, Thailand[2]

This study examines whether financial statements' reliability, which are measured by type of auditor's report, and the risk attitude of credit officers have the combine effect to their decision on cost of debt. We conduct 3x3 between-subjects experiment, three levels of the financial statements' reliability (which are unqualified, emphasis and qualified auditor opinion) and three levels of the risk attitude (risk lover, risk neutral and risk averse). The result show that, there are very few risk lover credit officers, thus further analyse was based on 3x2 between-subjects experiment. The results suggest that risk attitude influences the credit officers' decision on cost of debt of the loan. However, there is no significant difference being found in cost of debt granted among 3 types of auditor's report. The study findings suggest that information content in auditor's report has limited communicate from auditors to credit officers in the SMEs lending process environment in Thailand.

0634 **Acculturation and Job Satisfaction among Vietnamese Graduates Working in Japan**
Nguyen Hoang Duy Phuong, Ritsumeikan Asia Pacific University, Japan[1]

In the world, the empirical researches regarding the relation between acculturation and job satisfaction of expatriates working in the host countries are diverse. Nevertheless, the research on Vietnamese workers in Japan is currently unavailable. Even though the number of Vietnamese students successfully getting the job in Japan is very impressive, there is the lack of feedback and information about their job satisfaction and career life after graduation. The substantial differences in culture, language, social manner and organizational behaviors are predicted to be the hinder for them to get accustomed to their workplaces. Based on the case of Vietnamese students graduating from Ritsumeikan Asian Pacific University (APU), this research firstly aims to examine the acculturation process of Vietnamese APU graduates in their Japanese workplaces. Secondly, the research also aims at figuring out how acculturation influences job satisfaction among the Vietnamese graduates. In order to assess the correlation between two variables of acculturation and job satisfaction in this research, acculturation and job satisfaction theory will be applied using quantitative methodology. Acculturation is measured by adopting the unidimensional model, while job satisfaction is measured by utilizing the short form of the Minnesota Satisfaction Questionnaire. The survey of a sample of 40 Vietnamese APU graduates is on the progress to produce useful information for Japanese domestic companies and organizations to manage better their Vietnamese employees. The research will be presented in the COMSA 2015 under the format of poster presentation with the full paper submission.

0635 **Developing a Double Sampling Plan Based on Cost Model**
Ching- Ho Yen, Huafan University, Taiwan[1]

Sampling plan is a judgmental tool used to decide whether accepting or rejecting a lot based on the information obtained from the samples. Therefore, how to design an economical criterion for lot sentencing is essential. For different sampling plans, the single sampling plan and double sampling plan are currently the most widely used in the manufacturing industries. In this study, we design a double sampling plan considering the view of cost based on the cost model of single sampling plan proposed by Hsu (2009) and a comparison is made with Hsu (2009). Given producer's risk, consumer's risk and the corresponding quality level, we find the relevant parameters and corresponding total costs of the two sampling plans by minimizing the costs of sampling plan. The results found in this study indicate that our proposed methodology has the advantage of smaller costs than that of Hsu (2009). In addition, in order to understand the extent the cost parameters affect the total cost, we consider changes in specific cost parameters and changes in all cost parameters simultaneously to implement the sensitivity analysis of total cost. The results of study find that the unit inspection cost has the most significant impact on the total cost, followed by the unit external failure cost, and the unit internal failure cost as the least

0637 **Contemporary Planning Practice need to be theorized?**
Lakshika Meetiyagoda, University of Moratuwa, Sri Lanka[1]
Susantha Amarawickrama, University of Moratuwa, Sri Lanka[2]

Planners' role need to be theorized? Lakshika Meetiyagoda* meetitlm@gmail.com Susantha Amarawickrama* susanthaa116@gmail.com * Lecturer, Department of Town & Country Planning, University of Moratuwa, Sri Lanka Contemporarily, it has mostly accepted the communicative planning theory and consider planners are persuaded to be in favour of public participation and work based on information than numbers. However, the planners' role is still ill-defined based on their contextual values and expectations of people by urban theorists. In this context, this paper aims to examine whether planners' values and choice is determined the context and values of people and how it impacts to project success. Apart from the observations and informal discussions, interviews are done to get the perception of planners and people's perception about the project and process is collected through questionnaire surveys. Two resettlement projects from Sri Lanka and Hong Kong contexts are selected as case studies to compare and contrast the situations. Content aalysis (interviews) and SPSS analysis (questionnaire) are used and the research findings highlight that according to the context and people's values and choice, planners' values are changing and that flexibility produce a successful project outcomes. Keywords: Planners, Values, Theory

0638 **Baseline Analysis of Productivity Changes with and without Considering Carbon Dioxide Emissions in the Indonesia's Manufacturing Sector**
Erik Armundito, Hiroshima University, Japan[1]
Shinji Kaneko, Hiroshima University, Japan[2]

This paper provides a baseline analysis of TFP growth over time without and with CO2 emissions using four periods of the Indonesia's manufacturing sector firm-level panel data: 1990-1995, 1998-2000, 2003-2006, and 2008-2010. It is assumed that carbon regulations have been imposed so as the undesirable outputs are weakly disposable. Malmquist productivity index is employed to estimate TFP growth without CO2 emissions and Malmquist Luenberger productivity index is applied to estimate TFP growth with CO2 emissions. Furthermore, environmental productivity and the influent of energy factors on environmental are also investigated in this paper. The results show that on average, TFP growth is higher when considering CO2 emissions as undesirable outputs in productivity measurement, particularly for the first, second, and fourth periods. Technical progress is the basis of productivity growth after energy subsidy removal and the change of environmental productivity is associated with the adjusted energy prices. Constructive policy designs can be derived from this paper are: (i) CO2 emissions as undesirable outputs can be considered in measuring productivity growth to obtain an actual TPF growth, (ii) carbon regulations are feasible to be implemented on the Indonesia's manufacturing sector to response climate policy, and (iii) technological improvements should be a major concern for the manufacturing firms' long-term strategic planning.

0639 **The Development of Climate Models Based Organization Sundanese Cultural Values**
Ani Setiani, Pasundan University, Indonesia[1]

The Development of Climate Models Based Organization Sundanese Cultural Values By Ani Setiani Lecturer Pasundan University Bandung Indonesia Abstract Research with the primary purpose of generating a sufficiently climate models based organization Sundanese cultural values that has a special character and tested so it deserves to be used in preserving local knowledge. This research is motivated by a number of companies who stand in society without looked Sunda local wisdom in him. With climate models organizations accurate, is expected to contribute to the society around in preserving their local wisdom. Formulation of the problem this paper is how to develop climate models based organizations Sundanese cultural values. This paper will be implemented with the design of research and development (Research and Development / R & D) approach Sunda chiefs. Implications to be derived from this research is the development of climate models based organization Sundanese cultural values. The original contribution of this paper will generate a new model based on organizational climate Sundanese cultural values. Keywords: Models, Organizational Climate, Sundanese Cultural Values, Local Wisdom

0640 **The Development of Dimensions Organization Culture**
Isniar Budiarti, University Computer Indonesia, Indonesia[1]

The purpose of this paper to determine the development of the concept of organizational culture dimensions were published in journals indexed from 2003 - 2013. And the new construct for generating organizational culture dimensions. Formulation of the problem this paper analyzes the concept of organizational culture dimensions to produce the dimensions of the concept. Studies done by identifying the organizational culture dimensions of organizational culture. . The approach used to assess this literature is to compare the concept of organizational culture of 10 (ten) experts who have been tested in the study. Implications to be derived from this analysis is the dimension of organizational culture is oriented to the internal organization to generate new dimensions of organizational culture construct that can be used by the management organization The original contribution of this paper will generate a new construct of organizational culture dimensions. Keywords: organizational culture, Dimensions, management, and construct.

0641 **The Issues of Urban NIMBY Conflict Management in China**

Linlin Sun, The Polytechnic University, Hong Kong[1]
Edwin H.W. Chan,The Polytechnic University, Hong Kong[2]
Dajian Zhu, Tongji University, Shanghai, P.R. China[3]

This paper aims to examine the issues of urban NIMBY conflict in China. Since 1970s, NIMBY (Not-In-My-Back-Yard) syndrome has become a worldwide challenge for urban development. Since 2007, urban NIMBY conflict events have frequently occurred in China. With the rapid urbanization in China, experts have predicted that in the next decade NIMBY phenomenon would appear frequently. However urban NIMBY conflict management research is on the initial study stage in China and western scholars also doubt whether the western theory applicable. This study first constructs a general framework based on the PSR (press-state-response) framework to analyze urban NIMBY conflict. NIMBY facility type, the interaction between local government and the residents and the management strategies are the variables in the analysis framework. Based on the four case studies that represent the NIMBY conflicts arousing by four kinds of NIMBY facilities, the issues of urban NIMBY conflict in China are identified. The results show that few windows for public participation to NIMBY facility decision making, EIA

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OVERVIEW OF URBAN MANAGEMENT IN KABUL, AFGHANISTAN

ELYASUDDIN JALAL
Civil and Environmental Engineering
Kumamoto University, Japan

Prof. Shoshi Mizokami
Civil and Environmental Engineering
Kumamoto University, Japan

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ABSTRACT

Kabul city (capital of Afghanistan) is heading towards recovering from the devastations of past three decades of war. In addition, the city's population has increased dramatically in the last decade and managing such a city is a challenge by itself. The US and International community have mainly focused on urban reconstruction of the post conflict Kabul city. However, in order to investments bring about sustainable development, sound urban management is essential.

This paper reviews the current state of urban management in Kabul city, with a specific concentration on the relationship between governmental authorities and the methodology for master plan's implementation. It investigates each urban governmental authority and earlier developed master plans of the city, consequently identifies the major gaps in the city's urban management.

The overall analysis suggests that there is a dire need for an alternative urban administrative structure. Also, the necessity for land use regulations and gradually enhancing the capacity of urban government institutions. In addition this paper highlights the two discussing alternatives for a viable administrative structure namely Kabul metropolitan development council (KMDC) and Kabul metropolitan government (KMG).

The findings of this paper should provide a clear guideline to the city's responsible authorities on how to strengthen and reform urban management institutions. Meanwhile, it aids them to know important steps to purse for their city planning. Despite the fact that, neither the urban management is a simple exercise, nor the criteria of accountability are petty across all these areas, yet this study will open the hidden puzzle for further researches.
Keywords: Kabul, urban, planning, management.

1 INTRODUCTION

Kabul is the capital of the Islamic Republic of Afghanistan. The largest city of the country, Kabul is a very historic area of the region. It's located in the eastern section of Afghanistan.

Kabul becomes the capital of Afghanistan in 1773 under the reign of Timur Shah, who move the capital from Kandahar province. Kabul city showed its first urban movements in 1950's, during which Jadayi Maywand Road was constructed together with the Kabul University and Maiwand Hospital. Kabul city's first master plan was prepared in 1962 for the 800,000 population and then revised in 1978 for a population of 2 million. By 1967, the city had ninety-seven secondary, technical and vocational schools and a university.

The population of Kabul city was 2,268,300 in 2005 as estimated by Central Statistics Office for the older city area consisting of 14 districts. The jurisdiction of the Kabul Municipality area was expanded in January 2005 to 22 districts and the population increased to 2.4 million. The population of Kabul city was estimated 4.22 million in 2008 by Japan International Cooperation Agency (JICA) study team and the municipality area was expanded to 1022.7 km2. This great city

is now suffering from its rapid population growth and needs an adequate urban management to guide it towards sustainability. [1]

Islamic Republic of Afghanistan has considered Urban Management as the 12th pillar of the National Development Plan. Progressively the Afghan government is concentrating on its urban reconstruction and development hand to hand with international donors, though without a sound management and effective administrative systems, outcomes can't be viable.

2 KABUL URBAN ADMINISTRATIONS:

Afghanistan is a highly centralized government which specifies the power of all provincial and local governments. The world is moving towards promoting greater decentralization; in addition centralized governments are so problematic and found mostly in less developed countries. Afghanistan government is ultimately supreme and any administrative division exercises only powers that their central government chooses to delegate.

Kabul municipality has the status of a ministry and mayor is selected by the president and reports directly to the president. Kabul Municipality is part of the national government and it is responsible for a) Implementing master plan, b) Housing, roads and parks construction and maintenance c) canals and ditches construction d) Distribution of land plots e) Cultural services f) Expansion and maintenance of markets g) City cleaning and garbage collection. Municipal revenue collection is regulated by the ministry of finance and rates for all taxes and fees collected are set in Kabul. The Kabul municipality's budget is made of accustomed budget and advancement budget. Accustomed budget is based on its own revenues and is spent for salary and maintenance. Advancement budget is given from the ministry of finance and it is spent for infrastructure development.[2] As the result of centralized government Kabul municipality is not responsible for Kabul city "education, health, water supply and public transportation".

Ministry of Urban Development is established in 1992. Ministry of Urban Development Affairs has the responsibility of planning and leadership of urban policy, supporting municipalities, urban development and the provision of urban master plans according to the National Development Strategy. It is also responsible for housing activity guidance and policy making as well as actual urban construction, maintenance and management. MoUD has it's headquarter office in Kabul and 7 offices in Jalalabad, Kunduz, Mazar-i-sharif, Herat, Kandahar, Khost and Bamyan cities. Kabul Municipality has lost its all authorities to approve plans to the MoUD. This has caused a great deal of frustration among municipal bureaucrats. They argue that they themselves should be in charge of the city. Kabul municipality and Ministry of Urban Development (MoUD) both claims the master plan reviving responsibility. [3]

Electoral law for municipalities was passed in 2003 in order to manage the electoral affairs of the municipalities and their districts. According to this law, mayors, members of municipal councils and district associations are to be elected for a term of three years with the mayor being elected indirectly from among municipal council members on the basis of a secret ballot. [4] The constitution, adopted by all 502 delegates of the Loya Jirga on 3 Jan 2004 states that "To administer city affairs, municipalities shall be established, the mayor and members of municipal councils shall be elected through free, general, secret and direct elections." [5] This is in line with government commitment to install democratically elected governments at the national and local levels. In addition despite the fact that city mayors should be elected by people, at the present time the Kabul mayor is selected directly by president of Islamic republic of Afghanistan.

Implementing Kabul urban planning will be a back-breaking task because of the uncoordinated urban administrations, unstandardized jurisdiction and lack of capable human resources for urban development and management in Afghanistan. The present obstacles will be elevated in forthcoming future by rapid population growth and attachment of new cities in the Kabul metropolitan area. In addition the latest master plan for the Kabul metropolitan area has indicated the need for a new Kabul city in Dehsabz and Barikab. Change is the only answer for Kabul urban administrations corresponding to its management problems, urban population growth and urbanization area expansion.

Metropolitan governments are varied worldwide according to their territory, jurisdiction, institutional depth and democratic intensity. This paper has overviewed the urban administration forms that Kabul urban administration can take to confront the challenges in politics, economics and society. [6] Thus recommends that best alternative for the present Kabul urban administrative structure can be Kabul metropolitan development council (KMDC) or Kabul metropolitan government (KMG).

The Kabul metropolitan development council (KMDC) is a joint group from the local governments. At first local governments select the KMDC members, and then KMDC members select their executive manager from among them. In this procedure the power of local governments still remains the same and by consultation in this association local governments can formulate their common policies and implement them individually. This type of coordinating councils can be found in most metropolitan areas, for example the metropolitan Washington Council of Governments (WASHCOG), was created in 1957 for the Washington metropolitan area. The same structure is also found in El Salvador in the Council of Mayors for the Metropolitan area of San Salvador.

The Kabul Metropolitan Government (KMG) is a more integrated and powerful authority. The governor of the KMG is directly selected by people. KMG will be a single metropolitan government to govern and manage the region of Kabul metropolitan area. The existing Kabul city and the new cities will have its own municipalities and will work under coordinated, transparent and qualified Kabul metropolitan government. This is the case in Tokyo and in Toronto. [7, 8, 9]

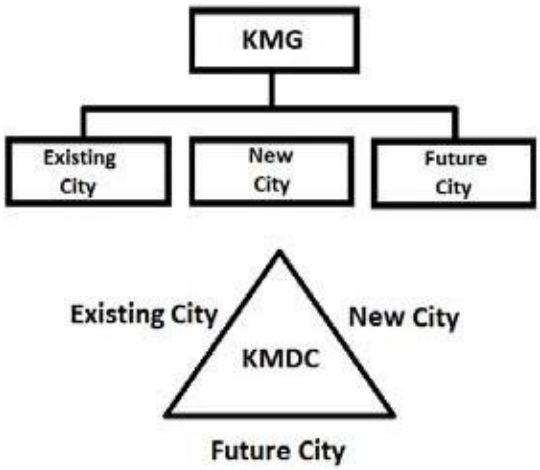


Figure 1: Proposed Urban Administrations for Kabul City
Kabul Metropolitan Government (KMG), Kabul metropolitan development council (KMDC)

Great Afghanistan demands flexible structures to coordinate local participation around target initiatives. Change is the only absolute and changing gradually is the key to success for the post conflict Kabul city. Achieving a cooperative, effective and united urban administration needs initiations in administrative structures, merging adjoining municipalities and expanding the jurisdictions in accordance with population growth and urbanization area expansion. Kabul metropolitan development council can be an easier option though the Kabul metropolitan government can be considered as a long term achievement. These options needs more discussion and investigations, it can be controversial but after all nothing will began without initiating any action.

3 KABUL URBAN PLANS

The Four master plans are formulated to shape the urbanization of Kabul city. First master plan was prepared in 1962 by Afghan and USSR experts for 800,000 inhabitants in the area of 23,780 ha. The second and third master plans were prepared in 1970 and 1978 for the population of 1.4 million and 2.0 million respectively, both were the revised versions of the first master plan. These master plans of the Kabul Municipality were composed of a general plan, 10 structure plans

and many detail plans. It represents a unitary type urban planning system to include both basic broad development and detail district plans. The master plan includes the three sorts of regulation provisions: 1) regulations on implementation project, 2) regulations on land acquisition, and 3) regulations on distribution and sales of land plots and buildings. These regulations provide very general descriptions and plausible procedures to be taken in master planning. [10, 11]

In 2007 and 2008 planning studies were carried out by Consultancy Services for Preparation of Development Plan for Kabul, Afghanistan (ICT) supported by the World Bank. Kabul Metropolitan Area Urban Development (KMAUD) master plan covering the existing Kabul city and New City Development area (Dehsabz) was prepared by support of Japan International Cooperation Agency (JICA) in 2008 and 2009. The ICT study was aiming to identify development projects for Kabul City, while the KMAUD Master Plan was to formulate a regional development plan. [12]

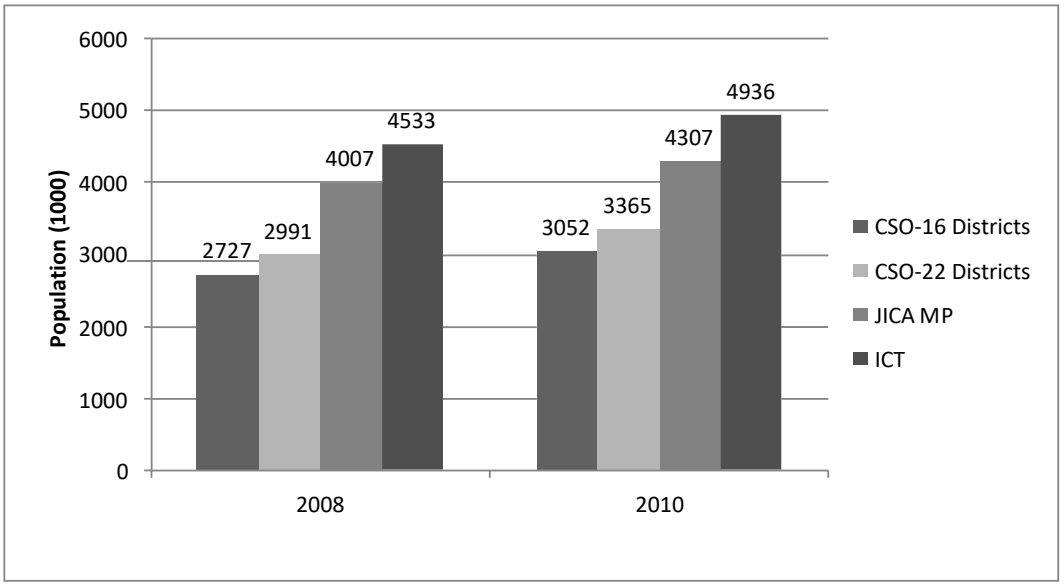


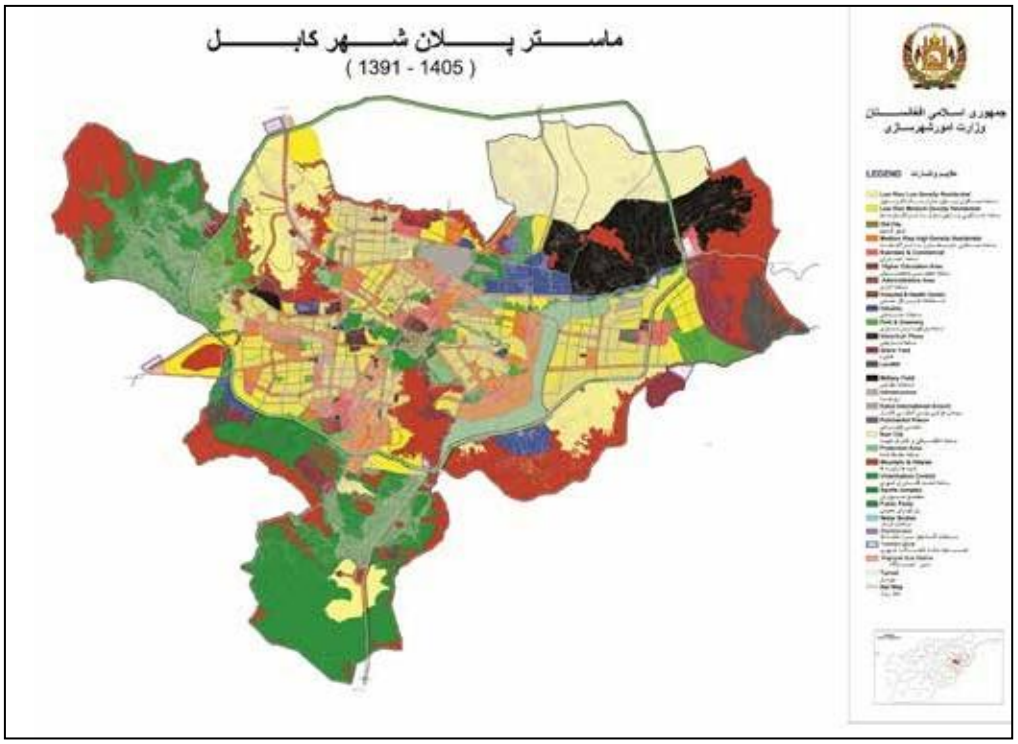
Figure 2: Estimation of Existing Population for Kabul City by Various Studies

Consultancy Services for Preparation of Development Plan for Kabul, Afghanistan (ICT), Japan International Cooperation Agency Master Plan (JICA MP), and Central Statistics Office (CS0) (Source: Kabul city Master Plan,2011)

In 2011 JICA established "Kabul City Master Plan" by fully utilizing the results of the ICT Study and the KMAUD Master Plan. This master plan replaced the third Kabul city master plan which was the last master of Kabul City approved in 1978. The target area of this master plan is the entire territory of the Kabul municipality, consisting of 22 districts and approximately 1023 km^2. The target year of this master plan is 2025 and ICT estimated at 4.5 million for the existing population in 2008 and 8.0 million for the planning year of 2023 and the JICA study team estimated 4.1 million in 2008 and 6.7 million for the metropolitan area, including 1.5 million for the new city, toward 2025.

The latest Kabul City Master Plan prepared by JICA has an overview of natural and socioeconomic conditions including population of the Kabul Municipality area. In this master plan major policies and planning conditions are formulated, most importantly Land Use Map for the Kabul municipality area and land development policies and strategies are initiated. This master plan has composed the transport infrastructure development plan and utilities development plans for water supply, drainage, sewerage, power distribution, information and communication technology network and solid waste management. [13] The Kabul city master plan assigns a primary vision for the future of Kabul city, though the structure plan and detailed plans of the former master plan are not revised and municipality will face to some dilemmas in implementation of the master plan.

Mostly master plans setup the macroscopic planning and broad urban policies. Master plans are not responsible for all matters related to urban planning, and land use regulations from broad developments plans to very detail plans. Smoothly implementation of Kabul Master Plan (KMP) can be done by the establishment of Kabul Land Use



Regulations (KLR) closely coordinated with of Afghanistan Building Codes (ABC) beside the Kabul Master Plan.

Figure 3: Land Use Map of Kabul City

(Source: Ministry of Urban Development)

Former Master Plan had the full authority to shape the Kabul city. It was consist of general plans, structural plans and detail plans. All the urban obstacles were concentrated on former individual detail plans. Therefore it was creating barriers for the development of Kabul city and discouraged the motivation and participation in urban development activities of private sector. The current Kabul Master Plan (KMP) will give the full opportunity for fully using the people and private sector's creativity.[14, 15] The people, private developers and constructors should make concrete plans of urban development for individual sites, complying with Kabul Land Use Regulations and Afghanistan Building Codes (ABC).

It is found that up to date there is no Land Use Regulations for Kabul city, which is the most fundamental, laws of urban planning. Land Use Map of Kabul city are categorized to Residential, commercial and Industrial zones by JICA'S latest master plan. The main Land Use Regulations which are very necessary are the height control, types of buildings, building density and provision of greenery.

In view of improving Kabul urban management Land Use Regulations and detailed plans will be candidate tools to provide a solid basis for guiding urbanization and individual urban development activities. Land Use Mapping provides open and clear criteria for citizens. The Land Use Mapping system and regulatory mechanism have strong advantage of stimulating the private sector's motivation and commitment for urban development activities and achieving their novelty and originality in planning and developments. Provided that Land Use Mapping is used as main regulatory framework for land use, it is not necessary to define detailed land use for the whole area by many detail plans. It will enable to save time and energy of the public sector.

Lack of skilled professional staff is another obstacle for effective urban governance, smooth implementation process of master plan and overall better urban management of Kabul city. There is

no any program for urban studies in Afghanistan's education system. Faculty on urban studies is highly recommended either in Kabul University or Kabul Polytechnic University, which are the leading universities of Kabul city. At the other hand the new urban regulatory system of Kabul city should be educated to public urban administrations and private company engineers and architects. Public sector should learn how to supervise, manage and govern the Kabul city by using Master plan of Kabul city, Land Use regulations and Afghanistan Building Codes (ABC). Private company's engineers and architects should also learn how to design their projects to meet the new urban standards. Otherwise our initiatives won't achieve long term sustainability.

4 CONCLUSION

To conclude, this composition articulates the overall urban management of Kabul city. The main result indicates that initiations are required in urban administration, planning and capacity building. This paper recommends two alternatives for urban administrations of Kabul city; for short term plan, the Kabul Metropolitan Development Council (KMDC) and for long term plan, the Kabul Metropolitan Government (KMG).

Consequently, to achieve the principles of Kabul Master Plan, Land Use Regulations should be formulated in coordination with the Afghanistan Building Codes (ABC). Also, to implement any new regulatory system extensively, the public and private sectors should be educated on its application.

Data gathering is time and effort consuming in Afghanistan. The reason behind this is the lack of coordination between governmental authorities and inaccessibility of data on the Internet.

Finally, this composition will provide some holistic ideas to the city authorities on strengthening the Kabul urban administrations. Strong and decisive urban planning, laws and regulations will assure the implementation of the city's master plan.

Additional researches are required to further study the details of the above results.

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THE DEVELOPMENT CONCEPT OF VALUE, VALUE CREATION AND CUSTOMER VALUE CREATION

Yenny Maya Dora

Lecturer Faculty of Business and Management Widyatama University
Students Doctoral Program In Business And Management Padjadjaran University
Bandung - Indonesia
Yenny.maya@widyatama.ac.id

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Abstract

The purpose of this paper to see the development of the definition of the concept of value, value creation and customer value creation that has been published in journals indexed and generate new concepts of value, value creation and customer value creation. Formulation of the problem of this paper is to compare the concept of value creation that is used in research to identify the ten (10) of the journal contains an explanation of value creation, value and customer value creation during the period 1997-2014. The approach used to assess the concept of value creation is to compare the concept of value creation of some experts that have been tested in the study. Implications to be derived from this analysis is the concept of value creation that is more oriented to the ability of the company's sustainable competitive advantage. The original contribution of this paper will generate a new concept concerning the definition of the concept of value, value creation and customer value creation.

Keywords: Value, Value creation, Customer Value Creation, competitiveness, and concepts.

Background

Value creation is essential for sustainable competitive sustainability. However, in defining the concept of value creation is still experiencing confusion. Where is the common concept of value creation refers to the concept of customer value creation process. Problems still vague definition related to the number of terms used. This is what needs to be clarified to avoid confusion.

The concept of value creation has been studied by many experts, including: Gummesson (1998), Vargo and Lusch, (2004, 2008), Christian Grönroos and Annika Ravald, (2011), Normann and Ramirez, 1993; Holbrook, 1996; Ravald and Grönroos, 1996; Vandermerwe, 1996; Wikstrom, 1996; Woodruff and Gardial, 1996; Normann, 2001; Prahalad, 2004; Vargo and Lusch, 2004;Grönroos, 2000, 2006, 2008; Lusch et al., 2007; Ravald, 2008), Varga and Morgan (2005).
In the opinion of Grönroos 2008; cf. Varga, Maglio and Akaka (2008), ... the creation of value has been recognized as a process that enhances the welfare of customers through user be *better* in some ways.

Referring to the opinion Voima, Heinonen and Strandvik (2010) on Grönroos and Ravald 2010, when the conceptualization of questionable value creation what it values, and where, how, by whom and when value is created, the complexity of the concept of value becomes apparent.
This paper refers to the results of research conducted by Christian Grönroos and Annika Ravald, 2010, "Service as business logic: implications for value creation and marketing.

In research and Ravald Grönroos, 2010, to discuss the scope of the analyzes, creation of value, Grönroos and Ravald 2010

While the purpose of this paper only produce a new concept of value creation in order to avoid further confusion about the concept of adding value to the value of, or with the addition of customer value.

Literature Review

In order to understand the concept of value creation by better, then we will study first the concept of value, value creation and customer value.
Following the definition of the value in the opinion of some experts who have made an assessment of the concept of value:

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Bowman and Ambrosini (2000, P.5), " value is created by action organization members, who joined to change value for that organization already acquired. Vargo and Lusch (2004, P.), " value is special, experience, contextual, and full of meaning. Vargo and Lusch (2007, P.146), " Value is always unique and phenomenological specified by receiver.

" Vargo, Maglio, Akaka, (2008, p.145)," value is fundamental from and set used integration and application source power in context particular - not in stock - b ertanam the output of the company and be arrested according to price. " Pitelis, (2008, P.6)," value as Price giverise to problem awareness consumer and presence product substitute by competitors – because problem promotion and marketing and strategy to compete. " Vargo, Akaka, (2009, P.16), " value is phenomenological and contextual by receiver services (ie, customers). " Giner, (2009, P.19), " value is often be made in phase others, particularly stage R & D "

Bakutyte, Grundey, (2012, P.108), value is basic from all activity marketing and value consumer is source main creation value for organization and the functionary interests. " Lautermann (2013, P.192), "**Value** as value wear, made by User for use source power, process (and / or result them). " Leat and Revoredo-Giha, (2013, P1487), " Value is produced in case enhancement security supply from quality guaranteed and ability to communicate with the supply base they Pigmeat."

The definition of value creation, according to some experts.

While the following is the definition of value creation in the opinion of the experts who have conducted research related partnered with the creation of value:

RAPHAEL Amit1 * and CHRISTOPH ZOTT, (2001, P.509), "present value creation in e-business, namely efficiency, complete, lock, and novelty."

Bowman and Ambrosini (2007), "the creation of value is the value creation process from the perspective of the company and the level of business strategy by considering whether additional activities can be tightly or loosely." Foster (2007, P.) Value creation is the process of a research agreement between producers and consumers." Stefanie Bro ¨ ring (2008, P. 76), "the creation of value is a collaboration with partners in other industries that have complementary competencies." Bowman and Ambrosini (2007, P.), "is the value creation process from the perspective of value creation and enterprise level business strategies by considering whether this activity can be tightly or loosely coupled." DP Lepak, KG Smith, and MS Taylor, (2007, P. 180-194), "creation value considered as a dynamic process create product or valuable services to subjective will be Valued by Userbased User criteria value." Stephen L. Vargo a, Paul P. Maglio b, *, Melissa Archpru Akaka A, (2008, P. 146), "the creation of values often considered as series activities carried out by company. " Pitelis, CN, (2008, P. 6), "adding value iterms The 'value added 'together with 'creation value and worthiness beperceived additional do through price reduced or plus differentiation. "

Vargo and Akaka (2009, p. 39) is the process of creating value-use of these resources. Christian Gro ¨ nroos and Annika Ravald (2010, P.7), "Value creation is the process of creating value-in-use of these resources." Chatain, O., & Zemsky, P. (2011, p.35), " value creation appear as interaction strategic results. " Saeed Gholami, (2011, P 150), "The creation of value should be as basic principles to design the competitiveness of top management strategy." Lautermann (2013, P.192), "the creation of value as a way conducive to achieving a good life, a wide variety of goods - goods that can be traded to make their materials or goods aesthetic, cultural, spiritual and material - produced by subsistence activities such as gardening or community work, must be taken into account. " Leat (2013, P.) "value creation is an ongoing challenge, especially in a difficult economic environment. " Tamer Madi, Zulkhairi Dahalin, Fauziah Baharom, 2013, (P. 1138), "creation value is encouraging research this to build value Model of co-creation in context agile, capableprovide product devices soft with superior value as high as company devices soft and the user desires. "

The definition of customer value creation of the opinion of some experts:
Here's the opinion of some experts who have conducted research on customer value creation:

Fontenot and Wilson, (1997, P.15-12), "creation value customer is considered have impact positive to he satisfaction and loyalty as variable result relational.

Narver, JC (2000, P.), Creation value customer is constitute prerequisite to excellence competitive, and creation of values to customers created when benefit to customer Related with product or service exceed charge offer to customers. Christian Gro ¨ nroos and Annika Ravald, (2010 P.5), "created value customer is a process consisting ed multilan from two subprocess conceptual different. "

Discussion
Defining the Concept of Value Analysis

From the above definition can be found there are a variety of definitions are expressed, such as:

Vargo and Lusch (2004 & 2007) a study in Factory Astra Honda Motor, Object Part marketing research, Lautermann (2013), the research focus on social value creation and social innovation. Bakutyte, Grundey, (2012), the focus of research at the university of value creation, Leat and Revoredo-Giha, (2013), research on the company Vion Food Group Ltd., the Scottish Pig Producers Ltd, the focus of research: the creation of sustainable value in the supply chain, Giner, (2009, P.19), "A study Agrofood sector of OECD member countries, the focus of research innovation or value creation in the company Agrofood, Gro ¨ nroos and Ravald, (2010) research on Astra car, the object of research on supply chain in the industry, the focus of the research service logic of value creation in supplier relationships with customers, Vargo, Maglio, Akaka, (2008), the research focus of the service system and

service logic perfective, Pitelis, (2008), Research Focus on sustainable value creation, Vargo, Akaka, (2009, P.16), " The focus of research on service science, service and service roles, Bowman and Ambrosini, (2000) place the company manufacturing or research focus on R and D.

Some similarity definitions submitted by experts, among others:

Vargo and Lusch (2007, P.146, Vargo and Lusch (2004, P.), " value is special, experience, contextual, and full of meaning. Lautermann (2013, P.192), **"Vargo** and Lusch (2007, P.146) determined by receiver. "And with Bakutyte, Grundey, (2012, P.108)," the functionary interests. " Gro ¨ nroos and Ravald, (2010, P.5), Giner, (2009, P.19), " value is often be made in Another stage. Vargo, Akaka, (2009, P.16), Vargo and Lusch (2007, P.146), " Value is always unique andphenomenological specified by receiver. "

Based on the study of the similarities in the opinion of the experts on the author makes a definition of the concept of value. Hope the author of this definition gives meaning even though their exact value of some the different focus. **Values are unique or special, phenomenological, contextual, experience, and full of meaning specified by the recipient or the stakeholders. "**

Analysis Defining the Concept of Value Creation.
The opinion of experts who have in common to the definition of the concept of value creation:

Bowman and Ambrosini (2007), "the process of value creation from the perspective of enterprise level. Foster (2007, P.) the process of cooperation between producers and consumers. "Stefanie Bro¨ring (2008, P. 76)," a collaboration with partners in other industries who have the competence and complementary. "

DP Lepak, KG Smith, and MS Taylor, (2007, P. 180-194), "Value creation is a dynamic process of creating valuable products or services valued by users based on the criteria of value." Stephen L. Vargo a, Paul P. Maglio b, *, Melissa Archpru Akaka A, (2008, P146), "a series of activities undertaken by the company."

Pitelis, CN, (2008, P6), "adding perceived value through price reduced or increased differentiation." Same with Chatain, O., & Zemsky, P. (2011, p35), "the creation of value appears as the interaction strategic outcome. " Vargo and Akaka (2009, p39) is the process of creating value-use of resources. Same with Christian Grönroos and Annika Ravald (2010, P.7), "the process of creating value-in-use of resources."

Tamer Madi, Zulkhairi Dahalin, Fauziah Baharom, 2013, (P1138), "value creation is to encourage research to build value co-creation model in the context of agile, able to deliver

superior value the company and the user desires." Same with Leat (2013, "ongoing challenge, especially in a difficult economic environment. "

Based on the above authors develop a definition of new value concept is the combination of expert opinion is: **Value creation is a process or series of dynamic activities to create products / services performed by the company valuable to use its resources and collaborating with partners in other industries who have the competence complementary to achieve a better life. "**

Analysis defining customer value creation

From the description of the definition of experts then we can see that the same expert opinion as follows:

Narver, JC (2000, P.), "The creation of customer value is a prerequisite for competitive advantage, and the creation of customer value is created when the benefits to the customer associated with a product or service exceeds the cost of supply to customers. Same with Fontenot and Wilson, (1997, P.15-12) The creation of customer value is considered to have a positive impact on satisfaction and loyalty as relational outcome variables.

From the study of the definition of the concept of customer value creation authors construct a new definition of customer value creation as follows:

Customer value creation is multilaned process, consists of two conceptually different subprocesses associated with the products/services exceeds the cost of bidding for customer satisfaction and loyalty for competitive advantage

Conclusion

The results of the analysis of the definition of the author's definition of Value Creation as follows:

Value creation is a process or series of dynamic activity of creating valuable products or services performed by the company to use its resources and collaborating with other industry partners who have complementary competencies to achieve a better life. "

Suggestion

Fore can do more in-depth analysis that the definition of the concept of value, value creation and customer value creation can be arranged to be easily understood.

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SPR (LIVESTOCK SCHOOL PUBLIC) AS FORM BY STUDENT TO REACH SOCIAL SUSTAINIBILITY

Melfa Andraini Agatha
Nutrition and Food Technology
Bogor Agricultural University

Resha Nuzul Safitri
Communication and Community Development
Bogor Agricultural University

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ABSTRACT

Indonesia is one of the richest country with the natural resources. Most of them is potential area and that is abundant where in remote areas and didn't optimalized by society. Livestock School Public or we called SPR (Sekolah Peternakan Rakyat) is one of institutions that facilitating in learning process which is applicative, participatory, systematic and structured to achieving independence and sovereignty rancher the people by way of provision of access to information science and technology and strengthening control production and post livestock production. In this achievements , SPR make the program which is develop and provided assistance through expert and college students .The student organisations that have a role in its upward course SPR is SMART (Social Movement on to Animal Research and Teaching) which is located in the Faculty of Animal Science Bogor Agricultural University Indonesia. The form of assistance as SMART action is expected to develop and attract more interest the breeders in this is particularly students as the agent of change. Students have important roles in the social sustainibility and food security because student as the facilitators in the life of community empowerment programs in the village and society.

Keywords: SPR, smart, livestock commodities, the sustainability of social student

1 INTRODUCTION

Indonesia is a country rich in natural resources. Most of the abundant potential in isolated areas and still can not be optimally utilized by rural communities. This is because of the lack of access by the public, such as the low level of development in the village. So that Indonesian government seeks to improve rural development through empowerment of rural communities. Under the 2014 Act 6 of the Village, that the empowerment of rural communities is an attempt to develop the independence and well-being of the community by enhancing the knowledge, attitudes, skills, behavior, ability, awareness, and utilizing resources through the establishment of policies, programs, activities, mentoring in accordance with the essence of the problem and the priority needs of rural communities.

SPR (livestock school People) is a container that facilitates the learning process is applicable, participatory, systematic, structured to achieve independence and sovereignty of the people by giving farmers access to information, science, and technology, as well as strengthening the control of livestock production and post-production. In achieving this, SPR create mentoring programs through expert of experts and students. The student organizations that participate in the implementation of the SPR is SMART (Social Movement Research and Teaching on animal) which is housed in the Faculty of Animal Husbandry and collaboration with community development experts from the Faculty of Human Ecology.

Although it has been several times conducted outreach activities and down the village, the application of science and farm management and organization in the village can not be done continuously, so that the implementation of mentoring or counseling should remain running as monitoring for the intellectual community that is sustainable with the activities of SMART Action.

Forms of assistance such as SMART Action this is expected to grow and attract more interest of farmers in this particular student as a change agent (agent of change). Students have an important role in the social sustainability and food security because the student is driving and facilitator in the course of development programs in rural communities. This paper attempts to analyze the role of the students in a container Schools Ranch People in order to achieve social sustainability.

Problems of Farmers

Problems of farmers in Indonesia is the first that if calculated on the average farmer in Indonesia only has 2 to 3 head of cattle and they do not understand how to breed true. Suppose not been able to take advantage of available feed from natural, agricultural waste can not be used because not understand how manage be feed quality. Nearly 98% of farmers prsen experience it. 2) good cows slaughtered and sold productive female sold because it requires money and also the lack of knowledge that the great sires that is the flasmanutfa. 3) Indonesia has not paid much attention to aspects of the farm, the SPR system only began to take shape in favor to the breeder and not a project which aims for profit alone. 4) Due to raising only as a byproduct, and not a profession or not a business so that people only see as a regular activity and only serve as a side not to go into business or profession remains. 5) The procedure for opening the farm is very complicated and requires a very long time as well as the problem of uniting the people of fellow farmers who have one goal (personal communication with the original conceptor)

The formation of the House of Representatives in the various regions where livestock has been running since 2013. One of the villages that have nurtured and established SPR is a village Distance, District Wonosalam, Jombang. Village consisting of seven hamlets, there are organizations SPR Distance Makmur Sejahtera which has stood on May 25, 2013 with DPPT (Livestock Owner's Representative Council) which is the seventh head of the hamlet of the village.

Village Distance has germplasm particularly promising farm commodities namely goats Peranakan Etawa (PE). Livestock is not outplayed by goats Peranakan Etawa (PE) Kaligesing so very unfortunate if the seeds are good out of the area (sold to the market). Data Collection and installation of eartag for female goats have been implemented by IPB students who joined in an organization SMART on 23 January to 3 February 2015. The preservation program feed, waste treatment and processing of livestock has also been done on the activities of the village down.

Role of Students

The college is a unit of education higher education providers; college students called the student; whereas college educators called lecturers. Sugiharto explained that in Indonesia has three roles of university campuses known as Tridarma universities: education; research; and community service. Thus, universities are expected, as stated in HELTS 2003-2010, produces (i) graduates who have the intellectual capability to be a responsible citizen and able to contribute to the

competitiveness of nations; (Ii) research that is capable of functioning as an incubator that helps the development of a knowledge-based economic system that is able to adapt and sustainable, and integration of advanced technology to maximize the access and application of cutting-edge technology; and (iii) contribute to the development of a democratic society, civilized, open, and meet the criteria for public accountability. Then it can be said that the college next task is to print the academic community which has a characteristic sense of crisis and always develop themselves. Students are expected to have a sense of crisis that can be taken to mean that a student must be sensitive to the surrounding environment and understanding of what they should do, especially finding the right solutions to resolve the problem. Academia should always develop themselves, so that they are able to become the nation's next generation of robust and able to face the challenges of the future.

1. Bridging

   Student Activities in doing bridging can be shown with the role of students in connecting or in this case is the bridge between the parties with the other party. In the case of the school's farm people, can be shown to students in a bridging role between the parties that in fact the government authorities, the private sector that in fact the owners of capital, and farmers as farm technicians.

2. Bonding

   Students play a role in the strengthening of Human Resources or in the case of the people are farmers in farm schools directly. Form of reinforcement in question is providing more knowledge about the system and good management of livestock.

3. Creating

Activity of students in the role of creating a system within the community together. In the creation of such a system should involve all stakeholders such as the Institute of Education (Institut Pertanian Bogor), Government (National Animal Husbandry Department) to be implemented in a sustainable and continuous.

Conceptual Empowerment

Community empowerment is done in a sustainable manner by utilizing the role of rural communities, especially farmers folk. Students perform its obligations as intellectuals who have high ideals and has a commendable character is expected to be a model for other communities. Especially in this case is about the management of the farm, so that people can understand and can apply beternakn way properly and in accordance with existing rules. The community development activities were students down the village to bring some programs related to peternakn and social systems. In the field peternkan students to share knowledge that has been gained diperkulihan by providing examples of direct and assist the communities to carry out these activities. These activities are the manufacture of fertilizer from waste products such as feces and urine peternkan, manufacture of fermented feed such as silage and other types of fermented feed, about the handling of livestock diseases, and all activities associated with other peternakna. while the social system we provide usualan so villagers can form an organization that is able to unify thinking and can achieve the same goal together.

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Conclusion

With the passage of SPR and sustainable system then all these problems could be overcome. Because the SPR has a role especially in the unification goals by means of passing communication, meaning that the communication means the transfer of knowledge so that a system of continuing education and created a community development. SPR is penompang 98% of the population and the needs of Indonesian national meat, and this is what should be developed and constructed, so that this system continues and is not brittle.

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personal communication with the original conceptor (Prof. Muladno)

Green Technology for Sustainable Development

Arpita Dutta[1]
College of Administrative and Financial Sciences
AMA International University
Kingdom of Bahrain

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Abstract

Sustainable Development has emerged as the most viable and practical model for human activity, that ensures the protection as well as progress of the three main stakeholders i.e., the economy, the ecology and the community and green technology is at the fore-front of this global movement towards Sustainable Development. It is particularly relevant in the case of the Kingdom of Bahrain. As the need for green products and services rise, partly mandated by governmental regulations, more and more entrepreneurs will jump into the green technology bandwagon and a positive cycle of new and more efficient green products will be created. Now days it is not just IT majors that are pumping in millions of dollars to focus on green technologies and environmental conservation, but also retailers and investment bankers have pooled resources to make their contribution.

The main goal of this research is to understand the status and level of effectiveness of the implementation of Green Technology among the selected consultancy companies in the Kingdom of Bahrain. The study also uncovers the difference in perception about the status and the actual effectiveness in the implementation. The study was conducted using surveys questionnaires and personal interviews, with a respondents group selected from eight different organizations that are actively involved in Green Technology implementation in the Kingdom of Bahrain.

The results showed that whilst respondents attached a high level of importance to the status of Green Technology, the level of effectiveness was gauged to be not very effective. Several problems and challenges were brought forth which are hampering the process of effective implementation of Green technology projects. The study confirmed the hypothesis that there was very less difference in the perception amongst the respondents pertaining to status and level and effectiveness of implementation of Green Technology among the selected companies in the Kingdom of Bahrain.

The study put forward details of some of the recommendations made by the respondents, which included a need for greater governmental support, investment in indigenous research and development capabilities, creating public awareness and improving access to newer technologies in the field of Green technology.

[1] Corresponding author: (Arpita Dutta, PHD.)

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Introduction

With the easy availability of innovative technologies, people have become more competent in doing things more cleverly , which was not probable before. Now a days, for preservation of natural environment and resources, which can satisfy the needs of the present generation and can also be retained for the future, green technology is used. Indeed a substitute to develop the national economy without causing harm to the environment. Further, as population continues to increase in a country, it needs more power day by day, to satisfy the daily demand as well as sustain the economic growth. So provisioning for human life using the current technology is expected to be unfeasible. For this Green Technology (GT) is helpful to achieve a noteworthy expansion in renewable energy for reducing CO2 emissions. As CO2 emission is to be blamed for climate change; due to which the earth's average temperature has escalated by 0.7 degree Celsius.[1]. Green Technology for the sustainable development of the human beings in this regard is an essential requirement in today's era. Green Technology is known as environmental curative technology that stops environmental degradation created by the commodities and technologies for peoples' conveniences[2]. A few organizations have taken the initiative in the implementation of Green Technology products, services and solutions that can help alleviate some of the major environmental issues facing Bahrain. In a nutshell, Green Technology is the application of innovative products, equipment and systems used to protect the natural environment and assets which in turn brings down the negative impact of human. [3, 4]

Therefore, Green Technology proved to be an alternative to develop the national economy without destruction to the environment. It is a new national development concept that creates new growth engines. In fact, the fundamental concern of any technology is its sustainability. Sustainable development can be briefly defined as the development which meets the needs of the present age group as well as of the future generations.[5] The fundamental ideas that are behind sustainable measures are: living within certain limits of the earth's capacity to maintain life; understanding the interactions among economy, society and environment; and maintaining a fair distribution of resources and opportunities for the next generation[6].

The idea of using Green Technology is central to the Sustainable Development initiative and it has its roots in the United Nations Conference on Human Environment (1972), in Stockholm, which highlighted the link between the environment and development in the Earth's context. The World Commission on Environment and Development defined it in their publication 'Our Common Future' as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". For economic progress and environmental conservation to go hand in hand, it requires a unifying and holistic factor to integrate the myriad interactive components into a functional whole, and that unifying factor can be the intensive application of Green Technology[7].

The Middle East is undergoing a heavy, multifaceted turmoil and crises, especially in the last few years. The rising oil prices may have come as a relief, but the financial crisis has left major industries in the region gasping for breath. This was further exacerbated by the fact that the region was betting on industries such as finance, investments, tourism and manufacturing etc., which were all affected deeply. The Gulf States are beginning to pay closer attention to sustainable energy and other aspects which they feel will create long term

stability, generate jobs and address the rising discontent and flagging economic growth in the region.

The Kingdom of Bahrain with a population size of 1.2 million people may not face many of the issues and challenges that over populated cities like Beijing, Mumbai, Djakarta etc. face with their over-stretched utilities, burgeoning population densities and unplanned growth but never the less, green technology is of vital importance to the Kingdom of Bahrain as it holds the key for environmental conservation and the general safety and wellbeing of all the residents of the Kingdom of Bahrain. Access to clean, renewable and cheap sources of energy is one of the biggest requirements for this country.

The researcher undertook the study on 5 prominent organizations based in Bahrain, namely: (a) Atkins, (b) Mott MacDonald(c) Creative Line , (d) Joz Group WLL (e) Hyder Consulting Middle East.
The study was undertaken to understand the status and level of effectiveness in the implementation of Green Technology among the 5 selected consultancy companies in the Kingdom of Bahrain.

Review of Literature

'Green isn't hard to do-it is just a different way to look at things'. At some quarters a change is already underway as we can see how so many companies have voluntarily put in place several environmentally friendly practices and many have also done so after they realized the fact that the various manufactured products and services are going to come under the purview of environmental regulation. Most major corporations now have systems and policies in place to gauge the negative effects of the output, be it in the form of the final product, by-product or the waste generated in the process[8]. Another study found that 25 Green Technologies That Will Electrify Your Future', that fossil fuels have pretty much been the major source of energy since the technological developments in the early 19th century that allowed us to generate electricity and use it for a diverse range of personal and commercial applications.[9] The author cautions that this is turning into a major crisis as on the one hand this is an energy source that is neither renewable nor abundantly available, and on the other hand the extensive usage has contributed to major damage to the earth's ecosystems in the long run. The author also encourages discussions that take the issues of environment conservation, resource utilization and the commercial aspects together while evaluating the way forward. Similarly, in the article titled 'Bringing the Environment Down To Earth', Forest L. ,[10]makes several poignant points. He states that while environmental problems are primarily issues of corporate social responsibility and that through green technologies, they can have strong economic benefits, if pursued correctly, however, these issues cannot be perceived as just money making enterprises as that will lead to failures and unanticipated risks. On the other end of this discussion, environmental issues should not be source of pessimism or that it should be viewed as another means to incur additional costs and expenditure. The author states that just like in business, these issues, while seeming to be an adversity, actually can be sources of enormous opportunities and they should be addressed likewise and that investment in green technologies is not a zero sum game. Another significant aspect covered by in the book 'Green Technology Strategies' is about the significant green technology solutions that can be developed by embracing, enabling and capitalizing from the Information, Communications and Technology (ICT) aspect[11,12]. Such systems improve efficiency, reduce energy consumption and help streamline business

and all processes and workflow. They do so by using accurate and up to date information to replace actual movement of goods and through deploying technology to improve every aspect to business. They can also help reduce the carbon footprint by facilitating business activities that do not require consumption of energy to do normal and daily tasks. However one of the studies substantiates the previous authors' view by stating that it will be green technology that saves human civilization and the planet as it replaces conventional technologies with more environmentally benign ones.[13] In his book 'Green Technology: An A-To-Z Guide', he postulates on the constant evolution in the interrelationship that exists between humans and the environment and that a time will come when it is possible that technologies can be deployed to make that relationship more sustainable. As technological advancements continue, driven by innovation and funded by growing investments and funding from diverse sources, resource utilization promises to be highly efficient with extremely low levels of wastage[13].

The Middle East is undergoing a heavy, multifaceted turmoil and crises, especially in the last few years. The rising oil prices may have come as a relief, but the financial crisis has left major industries in the region gasping for breath. This was further exacerbated by the fact that the region was betting on industries such as finance, investments, tourism and manufacturing etc., which were all affected deeply. The Gulf States are beginning to pay closer attention to sustainable energy and other aspects which they feel will create long term stability, generate jobs and address the rising discontent and flagging economic growth in the region.

Gulf States are vocal supporters of new and alternative energy sources. As per a recent article titled, 'The new frontier?' there is several reasons for the regional push for renewable energy.[14] First, it makes sense to sell the oil products as an export product than to consume a major chunk internally. Secondly, as population and usage of energy intensive electronic items increase, the demand for electricity will undoubtedly shoot up. And thirdly, while the Middle East is rich in Fossil fuels, it has an energy source that it receives far more abundantly, solar energy. With consumption rising at four to five per cent annually, many believe that the Gulf States may very well end up becoming the major importer in addition to being the biggest exporters of oil and gas products. The author sates how four of the top (per capita) electricity users are GCC countries - Kuwait at fifth place, Qatar at sixth, the UAE at eighth and Bahrain at ninth position. The bottom line of the article is that time is running out for the Gulf countries to amend their current energy mix and to take radical steps to address pressing issues of both energy requirements as well as to take steps to reduce their carbon-footprint and work towards environmental conservation. A large supply of oil resources may have cushioned these economies from the debilitating effects of the huge resources needed for energy generation, but that has changed.

Research Methodology

Sampling Design

The study utilized purposive sampling as the company is very strict in giving out data. Purposive sampling was used to ensure that people who have expertise in the area of study were the only ones who will answer the questions and thereby gives accurate responses.

Purposive sampling, according to the SAGE Dictionary of Social Research Methods (Victor, 2006) is a form of sampling technique which is non probabilistic whereby the

decision on who will be the respondents depends on the criteria set by the researcher. Criteria may include the degree of knowledge and expertise on the topic that is being researched.

The respondents were drawn from the following selected companies: (a) Atkins, (b) Mott MacDonald(c) Creative Line , (d) Joz Group WLL (e) Hyder Consulting Middle East.

Table 1: Respondents Distribution.

DESIGNATION / WORK PROFILE			
Manager	20	14	70%
Engineer/Consultant	35	13	37.1%
Supervisor	15	13	86.6%
Total	**70**	**40**	**57.1%**

Research Instruments

In order to collect data for the study, the researcher made use of two research instruments, survey and personal interviews. The questionnaire consisted of four parts. Part A examined the existing status of the implementation of Green Technology by the identified companies in the Kingdom of Bahrain. Part B focused on the level of effectiveness of implementation of Green technology by the identified companies. In part 3 the various problems faced by the respondents in the implementation of Green Technology were answered. The final part of the questionnaire dealt with the recommendations and suggestions offered by the respondents to address the issues involved in the effective implementation of green technology in the respective organizations. Personal interviews were conducted with the relevant personnel as there are several aspects in the study that required access to personal and candid views and opinions about several aspects of the green technology business including governmental support, marketing challenges that are specific to the Kingdom of Bahrain and future trends and prospects of these technologies in the region.

Likert numeric scales are attached to each question for finding out the qualitative data.

Data Processing and Statistical Treatment

All the data acquired through the questionnaires was collected, organized, processed and analyzed by the researcher, with the help of computer software-based statistical tools. The qualitative scales were assigned corresponding weights and the weighted mean of each item within the questionnaire was calculated. A hypothetical mean range was assigned to the scales for the purpose of attaining a definitive interpretation of each item.

The mean. t- test, N, standard deviation, mean difference, Sig(2 tailed) and the decision etc, were the tools used in statistical treatment of the study. SPSS was used to undertake statistical treatment of the collected data.

Theoretical Framework

The theoretical framework considered in this study, encompass three major points of view: economic, social, and environmental which are considered to be the three important pillars of Sustainable Development.[15]

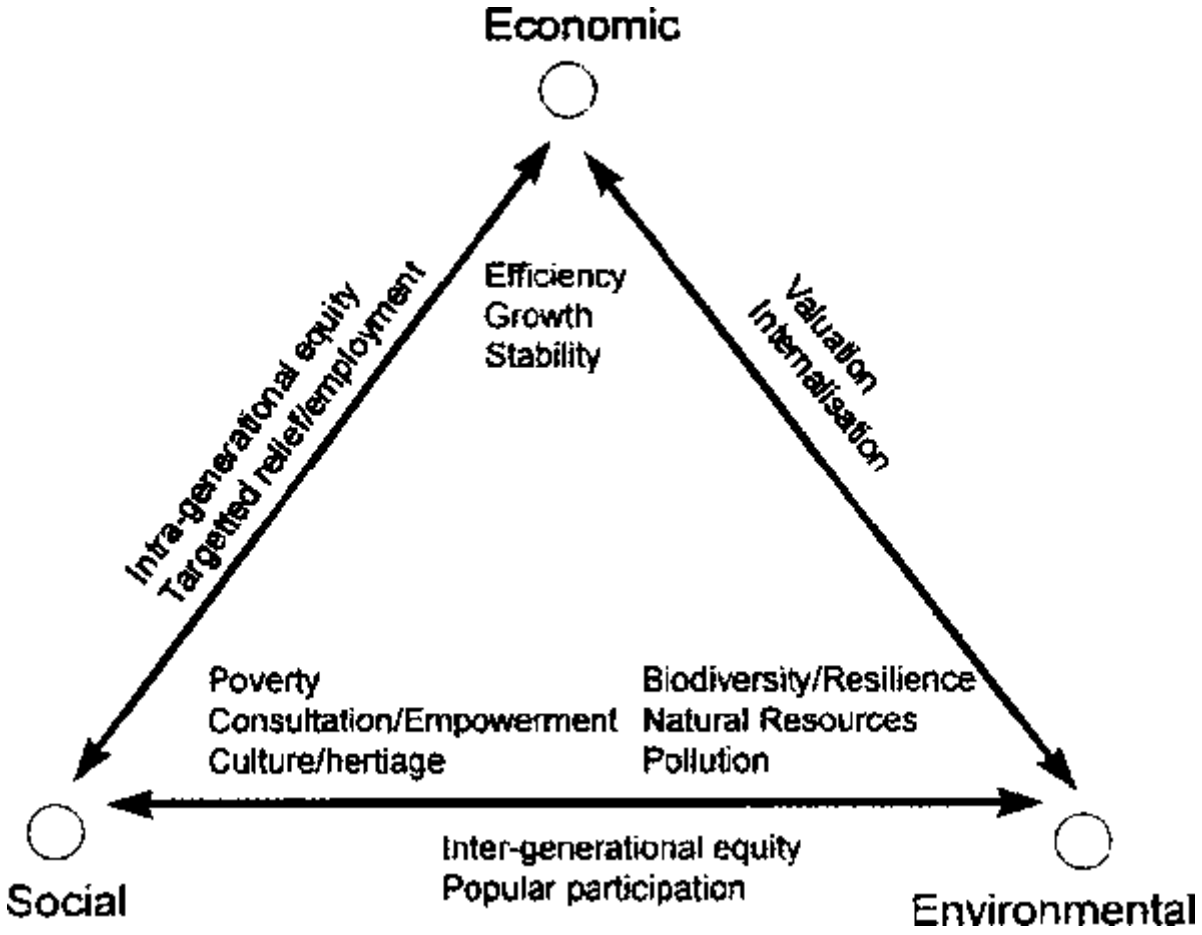

Figure 1: Sustainable Development Model by Munasinghe(Source: Pearce, 1999)

Sustainability in terms of economic growth can be seen as the highest flow of income that could be generated while at least maintaining the stock of assets (or capital) which yields those benefits.

The social pillar of sustainability focuses on people, and plays an important role on maintaining stability of social and cultural systems, and reduction of civil wars. Equity is also anther criteria that are given importance. Conservation of cultural variety and cultural capital across the world, and the better use of sustainable development practices are highly desirable. There is a real need for present society to encourage and integrate pluralism and grass-root participation in decision-making for socially sustainable development.

The third pillar of sustainable development, environmental protection focuses on creating a balance between biological and physical systems. Again, 'natural' systems and habitats may be interpreted generally to take into consideration man-made environments such

as cities. Natural resource exploitation, pollution and loss of biodiversity decrease system resilience.

Understanding these three pillars and making them operational means that the achievement of sustainable development is a difficult job, since all three elements must be given balanced consideration.

Results and Discussions

The status and level of effectiveness of Green Technology for sustainable development was found from the variables, namely; Economic Growth, Environmental Protection and Social Development, which are the three pillars of sustainable development . The data collected from the respondents have been tabulated and are presented below, followed by the discussion of the outcome of the data analysis.

PART A: Status of implementation of Green Technology among the selected companies in the Kingdom of Bahrain in terms of:

1.1 Economic Growth

Indicators		**Engg**	**Mgrs**	**Sup**	**Composite**	
					WM	**Interpretation**
1	Role of Green Technology in contributing towards green economy	4.00	4.46	3.56	4.00	Important
2	Role of Green Technology in enhancing economic gains due to application of green solution	3.54	4.15	3.64	3.77	Important
3	Role of Green technology in contributing towards efficiency/productivity and reducing wastage/errors of an organization	4.05	4.46	3.93	4.14	Important
4	Role of green technology in enhancing Market share due enhanced positive perception	3.46	3.92	3.79	3.72	Important
5	Role of Green Technology in improving product and services quality and the consequent increase in sales and customer satisfaction.	3.69	4.15	3.79	3.87	Important
OVERALL WEIGHTED MEAN		**3.74**	**4.22**	**3.74**	**3.80**	**Important**

Table 4: Status of implementation of Green Technology among the selected companies, in terms of Economic Growth

The concept of the green economy has gathered importance as it provides a solution to the multiple crises that the world has been experiencing currently – the climate, food and economic crises – with a different idea that offers the assurance of development while

protecting the earth's ecosystems and, in turn, contributing to poverty reduction. In this sense, the conversion to a green economy will necessitate moving away from these crises to a system that positively addresses and avert them[16]

This study found out that most respondents have a positive perception pertaining to Green Technology's contribution towards sustaining competitive advantage, increasing bottom-line profits, improving efficiency/productivity, expanding the market share and in improving the quality/sales/customer satisfaction levels. The data provided insights on the perception levels of the respondents and how they valued the importance of Green Technology for the economic growth aspect with a with a weighted mean of 4.00 The contribution of Green Technology was considered to be Important with a mean of 3.77 in its contribution towards sustaining competitive advantage. In some ways competitive advantage may be the accumulation of strengths in the areas of bottom-line profits, market share, quality of the products and services etc.

It has also been noticed in some studies the existence of quite a few risks that may be associated with the misuse of the idea of the green economy [17]. The first risk is the "environmental "one. The second risk is "one size fits all" approach, in which all countries are treated in the same way. There are also risks linked to the trading system. Utilizing of environment for trade protection; of gaining market admission; of subsidized production in developing countries; of not encouraging the developing countries to promote their own green economy sectors. And finally, the enforcement of new condition on developing countries in terms of green economy for aid, loans, and debt rescheduling or debt relief is not a fair practice[17]

Furthermore it has been found that , political situation, protection and support of the local identity and cultural ideals, competitiveness, pressure for sustainable actions, and, anticipations of consumers are the external drivers for sustainable activities within a company Whereas , increase of profit or closing a market gap, improvement of reputation could be identified as internal drivers[18] Therefore the attitude and interest of the top management of a company has a big role to play for sustainable activities within an organization.

The expectation of direct financial benefits or competitive advantages influences Sustainable development strategies. This is in accordance with a study which found that firms generally look out for environmentally or socially desirable activities if and only if there is a direct effect on the economic gains for the company.[19] Here, the companies' capacity to harness new prospects becomes essential, as postulated in the dynamic capability approach by Teece, According to the author, dynamic capabilities is meant by the firm's ability to incorporate, make, and reconfigure internal and external capability to tackle dynamic environments. Therefore it reflects a firm's capability to attain different forms of competitive advantage. The validity of Barney's, Resource Based View becomes questionable about sticking to core resources and competencies of the company for a long time because of changing environments. For carrying out sustainable management practices, it is usually felt that the societal awareness for these issues are not there and hence might be short lived. As has been shown above, relying on sustainable suppliers may be both costly both in terms of time and capital [20].

Environmental protection

Indicators		Engg	Mgrs	Sup	Composite	
					WM	Interpretation
1	Role of Green Technology in meeting present needs without making any compromises .	4.40	4.33	4.50	4.41	Important
2	Role of green technology in making products that can be fully reclaimed or reused.	4.40	4.00	4.73	4.37	Important
3	Role of green technology helps in introducing sustainable living, develop renewable energy and reduce waste.	4.50	4.63	3.23	4.12	Important
4	Developing alternative technologies to prevent any damage to health and the environment.	3.78	4.70	3.65	4.04	Important
5	Green technology is essential in reduction of global warming risks and rising energy costs	4.88	4.78	3.58	4.40	Important
OVERALL WEIGHTED MEAN		**4.4**	**4.9**	**3.9**	**4.3**	**Important**

Table 5: Status of implementation of Green Technology among the selected companies, in terms of Environmental Protection

The very idea of sustainable management inspires company's both public and private to become better custodians of the environment. Green Technology here plays an vital position in creating the options that permit sustainability by creating processes, products, and systems that are environmentally suitable , more energy- and resource-efficient and often more cost-effective[8]

With a mean of 4.30, respondents hailed the role of Green technology in its contribution to the environmental protection. All the respondents agreed that green technology will promote the optimal utilization of resources using a systems approach. A rating of 4.12, more than what they perceived was the contribution made to economic growth, makes us aware that most aspects of environmental protection including reducing carbon footprint, reducing wastage, achieving organization's environmental goals, reducing nature-extracted raw materials and the improvement of the quality, safety and hygiene of the products offered by reducing toxic and chemical products etc were considered to be important. Clearly the respondents appreciate the fact that the environment is definitely the primary beneficiary when it came to Green technology. Developing alternative technologies can help in preventing damages done in matters of health and the environment

All over the world organizations need to change the production processes to end poverty and prevent the likely the severe impacts of climate change and environmental degradation. [20] states that "Without adoption of green technologies, it will not be possible to reverse the

ongoing environmental degradation and provide secured and decent livelihood for all of humankind, at present and also in the future," Furthermore, with half of the earth's forests a gone, groundwater resources are getting depleted, huge losses in biodiversity have already occurred, and climate change threatens the stability of all ecosystems[20]. This calls for government policies to reformulated based on improvement of energy efficiency , supporting use of efficient green technologies in specific places; providing support for research and development initiatives; and applying superior governance and accountability strategies in energy-related technological development than at present[21].

Social Development

Indicators		**Engg**	**Mgrs**	**Sup**	**Composite**	
					WM	**Interpretation**
1	Role of Green Technology concepts in helping the organization contribute towards its Social Development goals and objectives.	4.65	4.00	3.40	4.02	Important
2	Role of green technology in improving human and productive capacities to enable them to participate in a global green economy which will lead to economic diversification, and generate employment.	4.00	4.23	3.93	4.05	Important
3	Role of green technology in playing a central role in long-term holistic community development programs	3.56	4.00	3.50	3.69	Important
4	Role of organizations in tapping into locally available renewable energy resources .	3.36	4.53	3.80	3.9	Important
5	Organizations create sustainable communities. Residents are exposed to less pollution and have more opportunities to be physically active and have access to healthy	4.35	4.30	3.95	4.2	Important

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	food choices.					
OVERALL WEIGHTED MEAN		**4.00**	**4.2**	**3.71**	**4.00**	**Important**

Table 6: Status of implementation of Green Technology among the selected companies, in terms of Social Development

The contribution of Green technology towards the social development was also judged to be important. Respondents gave the highest mean of 4.05 towards the role of green technology in making a more sustained and measurable effort towards contributing to community development . This could be because respondents perceived that organizations are not driven purely by an increase in profits to take social and social initiatives. Developing new green infrastructure for the institution and in the community – such as new green technologies, alternative local energy sources, recycling systems and built environment retrofitting – creates new jobs locally and encourages business development and growth. More efficient use of resources through new green development further reduces cost and ensures institutional security[22].

A rating of 4.2 clearly indicates that developing green initiatives in collaboration with local community groups and leaders will ensure that anchor institution strategies address actual community need and work to create real and long-lasting improvements for community residents. Anchor institutions can partner with local community organizations to provide training programs, educational opportunities and hands-on workshops in green development or lend their expertise in green programs to building developments and rehabilitations [23].

PART B: The level of effectiveness in the implementation of Green Technology in the Kingdom of Bahrain in terms of:

2.1 Economic growth

Indicators		**Engg**	**Mgrs**	**Sup**	**Composite**	
					WM	**Interpretation**
1	Level of effectiveness of implementation of Green Technology in contributing towards green economy.	2.80	3.45	3.23	3.16	Somewhat Effective
2	Capacity of the implemented Green Technology concepts in enhancing economic gains due to	3.55	3.35	3.00	3.3	Somewhat

	application of green solution					Effective
3	Implementation of Green Technology in contributing towards efficiency/productivity and reducing wastage/errors of an organization	3.75	3.50	3.35	3.5	Effective
4	Green Technology concepts implemented improved Market share due enhanced positive perception	3.92	3.50	3.43	3.6	Effective
5	Green Technology implementation improved product and services quality and the consequent increase in sales and customer satisfaction.	3.64	3.00	3.78	3.5	Somewhat Effective
OVERALL WEIGHTED MEAN		3.5	3.4	3.4	3.4	Somewhat Effective

Table 7: Level of effectiveness in the implementation of Green Technology among the selected companies, in terms of Economic growth

From an economic growth point of view, the respondents deemed the effectiveness of Green technology in Kingdom of Bahrain ,only somewhat effective with a composite mean of 3.4. This shows the near negative perception respondents hold towards the implementation of such technologies towards the economic growth. As will showcased later in this chapter, the respondents have substantiated this view for economic, ecological as well as social development aspect, by stating the various issue faced in the process of implementation of Green technologies. With a mean of 3.3, respondents felt that the level of effectiveness of the technologies in enhancing economic gains was really not enough.

2.2 Environmental protection

		Engg	**Mgrs**	**Sup**	**Composite**	
					WM	**Interpretation**
	Effectiveness in meeting present needs without making any compromises .	3.62	3.50	3.30	3.47	Effective
	Green Technology implementation helped in making products that can be fully reclaimed or reused.	3.54	3.15	3.43	3.37	Somewhat Effective
	Implementation of Green Technology concepts introduced sustainable living, developed renewable energy and reduced waste.	3.65	3.21	3.15	3.34	Somewhat Effective
	Implementation allowed the development of alternative technologies to prevent any damage to health and the environment.	4.27	3.15	3.57	3.66	Effective
	Implementing of Green Technology concepts essentially helped in reduction of global warming risks and rising energy costs	3.50	3.35	3.00	3.28	Effective

ED MEAN	**3.71**	**3.27**	**3.29**	**3.4**	**Effective**

Table 5: Level of effectiveness in the implementation of Green Technology among the selected companies, in terms of Environmental protection

The perception was equally attractive for the environmental protection perspective. Respondents gave consistently lower rates, a mean of 3.40 for what they felt was a lackluster level of effectiveness in implementation of Green technology projects that could benefit the environmental protection. The lowest mean of 3.28, was attributed to the implementation instances wherein Green technologies have allowed for the reduction in the usage and procurement of raw material that is extracted directly from natural resources and have helped in making products that can be fully reclaimed or reused. None of the 5 points under environmental protection possessed a mean of over 4.00.

2.3 Social Development

Indicators		**Engg**	**Mgrs**	**Sup**	**Composite**	
					WM	**Interpretation**
1	Effectiveness of the organization in contributing towards its Social Development goals and objectives.	3.54	3.49	3.63	3.55	Effective
2	Application of green technology in improving human and productive capacities to enable them to participate in a global green economy	3.62	3.46	3.71	3.6	Effective
3	Application of Green Technology played a central role in long-term holistic community development programs	3.15	3.30	3.08	3.18	Somewhat Effective
4	Effectiveness in tapping into locally available renewable energy resources	3.40	3.55	3.48	3.48	Somewhat Effective
5	Implementation created sustainable communities. Residents are exposed to less pollution and have more opportunities to be physically active and have access to healthy food choices..	3.63	3.50	3.78	3.64	Effective
OVERALL WEIGHTED MEAN		**3.5**	**3.5**	**3.5**	**3.5**	**Somewhat Effective**

Table 9: Level of effectiveness in the implementation of Green Technology among the selected companies, in terms of Social Development

Implementation of Green Technology concepts as a means to social and social development was found to be somewhat effective. The highest mean score was at 3.60 which is again a reflection of what the respondents felt previously about the status of Green technology, wherein it gave the organization the capacity and impetus to expand its social development objectives and activities. They felt that green technology was quite effective in improving human and productive capacities and community has started participating in contributing towards global green economy.

3. Is there a significant difference on the perception of the respondents on the level of effectiveness in the implementation of Green Technology in the Kingdom of Bahrain when grouped according to their functions?

		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Economic growth	Between Groups	.650	2	.340	.476	.625
	Within Groups	26.424	37	.714		
	Total	27.104	39			
Environmental protection	Between Groups	2.545	2	1.422	1.561	.223
	Within Groups	33.714	37	.911		
	Total	36.559	39			
Social development	Between Groups	.044	2	.022	.025	.973
	Within Groups	29.075	37	.756		
	Total	29.119	39			

Table 10: Level of effectiveness in the implementation of Green Technology among the selected companies, when grouped according to their functions

Presented in the table is the analysis on the perception of the respondents on the level of implementation of the green technology in the kingdom of Bahrain when grouped according to functions. Using F-test at .05 level of significance, it was found out that there is a comparable state of perception on the indicators set forth for this study: F-values of .476, 1.561 and .025, and p-values of .625, .223 and .973, respectively for economic growth, environmental protection and social development. This means that there is no significant difference on their perception. Hence, the null hypothesis of no significant difference on the perception of the respondents on the level of implementation on the green technology in the Kingdom of Bahrain is hereby accepted.

Findings

The concept of sustainability inspires public and private organizations to become better stewards of the environment. Green Technology here plays an important role in creating the options that enable sustainability by developing chemicals, processes, products, and systems that are environmentally preferable, more energy- and resource-efficient, and often more cost-effective. In this study it was found that most respondents have confirmed that Green Technology's plays a very important role sustaining competitive advantage, increasing bottom-line profits, improving efficiency/productivity, expanding the market share and in improving the quality/sales/customer satisfaction levels. The contribution of Green technology in its reservation of environment was agreed by all the respondents . Most aspects of environmental protection including reducing carbon footprint, reducing wastage, achieving organization's environmental goals, reducing nature-extracted raw materials and the improvement of the quality, safety and hygiene of the products offered by reducing toxic and chemical products etc were considered to be important. Respondents noticed a constant evolution in the interrelationship that exists between humans and the environment and that a time will come when it is possible that technologies can be deployed to make that relationship more sustainable. As technological advancements continue, driven by innovation and funded by growing investments and funding from diverse sources, resource utilization promises to be highly efficient with extremely low levels of wastage. The social concept of sustainability is people-oriented, and relates to the maintenance of the stability of social and cultural systems, including the reduction of destructive conflicts. Respondents realized that equity is an important consideration from this perspective. The contribution of Green technology towards the social development was also judged to be important. Preservation of cultural diversity and cultural capital across the globe, and the better use of knowledge concerning sustainable practices embedded in less dominant cultures, are seen as desirable. The study found that there is a perceived need for modern society to encourage and incorporate pluralism and grass-root participation into a more effective decision-making framework for socially sustainable development. The results show that there is indeed a realization amongst the people about the significance of Green technology from an economic, ecological and social perspective. From an economic growth point of view, the respondents deemed the effectiveness of Green technology concepts only somewhat effective though they felt that transition to a green economy will entail moving away from the system that allowed, and at times generated, these crises to a system that proactively addresses and prevents them The respondents have substantiated this view for economic, ecological as well as social development aspect, by stating the various obstacles faced in the process of implementation of Green technologies. The perception was equally unattractive for the environmental protection perspective. Respondents gave consistently lower grades for what they felt was a lackluster level of effectiveness in implementation of Green technology projects that could benefit the environmental protection. Implementation of Green Technology as a means to social and social development was found to be somewhat effective. There is no significant difference on their perception among the respondents. Hence, the null hypothesis of no significant difference on the perception of the respondents on the level of implementation of Green Technology in the Kingdom of Bahrain is hereby accepted. The respondents also raised several challenges that were faced during the implementation of Green Technology in the Kingdom of Bahrain. The biggest problems were related to cost factor and Governmental support. The respondents also voices their problems with regards the lack of awareness of Green technology and its benefits, and also with regards the lack of access of the latest technologies and methods in the country.

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Conclusion

There is a green contribution by the selected firms in the Kingdom of Bahrain. In fact, green technology can be considered as one of the vital factors which help in boosting economic growth, environmental protection and social development in a sustainable manner. As the economy diversifies, it will be prudent to engage in Sustainable Development initiatives that ensure that the economy, ecology and social, the three important stakeholders, are protected and not at the cost of economic growth and economic expansion.

Unemployment and Poverty Reduction can also be reduced Respondents have also presented the renewable energy sources and the merits of the same and the urgency of having clean energy in the kingdom of Bahrain. **But** the study revealed the fact that the current level of effectiveness of implementation of Green technology was not up to the expectations in the Kingdom of Bahrain. More awareness about benefits is needed amongst the local communities.

Respondents have also the emerging challenges faced in the development of the GT in Kingdom of Bahrain and recommendations to cope up with the same. The challenges such as lack of economic initiatives, industry benefits to promote Green technology and the absence of a coherent Government policy that promotes and strengthens a Green technology-intensive industry are really hampering sustainable development in the Kingdom of Bahrain.

Recommendations

- A requirement for achieving a change in economic belief is understanding of the concept of sustainable development and being aware of it, as well as the relation between the multiple crises to unsustainable economic actions. It might bring about a re-orientation of principles and attitudes and has to cover a variety of actors, ranging from the consumers, to policy makers and corporations.

- Therefore, it calls for strengthening of cooperation between the various actors , the setting up of strong linkages between the private sector and international and public organisations in order to achieve common goals of sustainable development in the Kingdom of Bahrain. Investment in adequate research and development in the field of Green technologies is the need of the hour. The kingdom of Bahrain must take steps to initiate extensive research and development activities to encourage indigenous creation of Green Technologies.

- The most important and immediate action needed is contribution to challenging the citizens to reduce exploitation of natural environmental resources such as oil and gas, and to introduce and promote more alternative energy sources and energy efficient technologies, to serve the wellbeing of future generations. Education will create awareness and this in turn will encourage citizens to address climate change and energy efficiency in universities, offices and homes. Also significant changes will take place in behavior and decision-making processes on issues of sustainable development. This will promote economic growth, social development and also reduction in the negative impacts on the environment.

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Measuring and Explaining Government Performance in Developing Solar Power Markets

Chien-Huei Wu[a], Wei-Ying Chen[b,*], Feng-Shang Wu[b]
[a] *Institute of European and American Studies, Academia Sinica, Taipei City, Taiwan (R.O.C.)*
[b] *Graduate Institute of Technology, Innovation & Intellectual Property Management, College of Commerce, National Chengchi University, Taipei City, Taiwan (R.O.C.)*

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Abstract

This paper evaluates the productivity of solar power markets in countries with developing solar power markets. It does so by investigating the extent to which governments can decrease support while maintaining electricity utilization levels, and increase solar power generation while decreasing CO_2 emissions. To address both issues with a view to improving energy utilization efficiency, this paper evaluates the performances of 25 selected countries against a Non-Separable DEA model (a DEA measure with non-separable desirable and undesirable outputs for evaluating efficiency). Panel data covering the period 2009 – 2012 reveals that in terms of pure technical efficiency, developing countries are slightly better of, on average, than developed countries, though in terms of overall efficiency, developed countries appear to be significantly more efficient. The findings of this paper highlight that inefficient countries could catch up with their peer groups and become more efficient by (1) reducing total expenditures and investments, days for getting electricity, total electricity generation, and CO_2 emissions for a given output; and (2) increasing the proportion of solar electric generation.

Keywords: Renewable energy policy; Solar power; Undesirable DEA model

E-mail address:
*Corresponding author: roy1207@gmail.com (Wei-Ying Chen);
chienhuei.wu@gmail.com (Chien-Huei Wu);
fswu@nccu.edu.tw (Feng-Shang Wu).

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1. Introduction

In most countries, renewable energy (RE) policies have been advocated in support of the transition to a low-carbon economy – a transition officially proposed in the Kyoto Protocol with a view to meeting the environmental challenges associated with carbon emissions. Strategies to further this transformation include supporting RE generation, improvements in energy efficiency, and reducing rates of deforestation. Since the publication of the Kyoto Protocol Report in 1997, the low-carbon transformation has attracted attention from scholars, policy-makers, and managers [1, 2]. Over roughly the same period, the energy crisis of the 2000s demonstrated that, worldwide, traditional energy resources are becoming more difficult and expensive to access, with obvious economic consequences. Thus, the development of RE resources has been recognized as integral to future-oriented policies on the economy, energy, and the environment; solar energy technologies have been identified as innovative means of moderating the impact of energy systems on climate change, and for countries to decrease their dependence on foreign energy sources. These developments have given a boost to solar energy-related research and industrial policies. Germany, for example, invested 10.3% of public R&D expenditures in solar power between 2006 and 2010, while Australia invested 14.5% between 2007 and 2011 [3, 4].

Despite the investment of public and private funds over many years, the experiences of numerous countries demonstrate that advances in the research, development and demonstration (RD&D) of solar power require slow, tedious efforts [5]. The lack of progress has been attributed to financial and technical barriers, a lack of government policy support, high capital costs, and poor impressions of the value of RE. In an effort to overcome these barriers, many countries have implemented a series of supports to make solar power more attractive [6-8], including incentives such as renewable portfolio standards (RPS), feed in

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tariffs (FITs), tradable green certifications (TGCs), and banking and insurance services. Previous studies have investigated the effectiveness of adopting such incentives at the national level [6, 9-14], mostly by focusing on the consequences and implications of such supports in order to identify which are optimal for specific countries given their particular circumstances. The efficiency and efficacy of such incentives for the solar power industry remain open to question, and, at present, the installed renewable generation capacities are far from sufficient to meet post-Kyoto targets.

The costs of incentives, energy subsidies, and infrastructure, in all their forms, are heavily dependent on government intervention, without which planning electricity supply in dominant electricity markets is chiefly characterized by profit-maximization and/or cost-minimization [15]. Effective government intervention would encourage more investment in solar power by hastening solar power utilization in the short term and improving national economic growth in the long term, with less intervention needed to achieve targets in cases of more efficient investments. These supports may be estimated for by referencing governmental annual expenditure and investment reports. Hence, we address two systemic issues: the extent to which governments can decrease support while maintaining electricity utilization levels, and the extent to which governments should strive to simultaneously increase solar power generation and decrease emissions of CO_2. To these ends, a few advances in data envelopment analysis (DEA) provide a suitable analytic tool for comparing relative performance across energy markets [17, 18].

The DEA approach designates each country as a decision-making unit (DMU); each DMU is taken to represent the amount that all outputs could be increased at a given input level, or all inputs reduced at a given output level. Under normal circumstances, undesirable outputs, such as environmental pollutants, are inevitably produced. In such cases, the

maximum-output efficiency evaluation of the traditional DEA model is not a suitable analytical tool; undesirable outputs need to be specially dealt with by expanding the traditional DEA approach [19-21]. Inspired by the integration of the energy policy and efficiency evaluation fields, this study investigates government interventions in 25 national markets by utilizing an extended DEA approach to measure inter-country efficiency within a given period. The most important contribution of this study is that it provides a clear description of the indicators of the efficiency of government intervention in RE development. At the same time, this study provides a detailed evaluation of national performance, and of differences among the sampled countries.

2. Methodology

2.1. The incentives for solar power markets

In accordance with the Kyoto Protocol, a number of national governments recently set out aggressive RE policies suggesting that the greater proportion of energy should be derived from renewable sources in order to meet their policy goals in such areas as energy security, energy efficiency, and reductions in carbon emissions. In the context of solar power promotion, the research literature refers to building large-scale solar electric generation facilities as one of the most efficient approaches to implement renewable electricity policy [22]. Solangi, Islam [14] note a trend, in various countries, favoring the adoption of solar power policies promoting easier access to assessment and reference materials to design suitable incentives [23]. They describe a shift in the control of energy markets from a conventional energy system to an emergent renewable system propped up by attractive support instruments in order to sustain energy production, distribution, and consumption [14, 23-25]. There are extensive studies investigating the merits of various solar power policy instruments and their impacts on solar power utilization [12, 13, 26, 27].

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The principal drivers of solar power policy utilization are government interventions and commitments in RE development. As Cansino, Pablo-Romero [24] recently pointed out, strong government support contributes much to stimulating solar electric markets. Countries have been keen to make use of supportive instruments – such as RPS, FITs, and TGCs – to stimulate solar power markets, and, in recent years, have found it necessary to pay greater attention to the efficiency of incentives in terms appropriate to the particular national economic situation. Previous studies have analyzed contemporary supportive instruments using a common set of criteria with a view to identifying the most effective instruments, and with reference to specific countries and/or technologies [28, 29]. However, none of instruments would be sufficient, in themselves, to transform a conventional energy system into a renewable one without negative consequences; some other supportive instruments, corresponding to the particular circumstances and objectives of a given country developing its solar power market, have to be positively integrated into existing regulatory frameworks to reduce existing handicaps [14, 23, 30, 31].

Questions of the efficiency of governmental investment have attracted attention from scholars interested in developing solar power markets. Researchers have analyzed the economic, environmental and employment impacts of RE markets, exploring diverse fields in order to calculate, and predict, their effects. Some researchers aim to present and discuss quantitative assessments of these new regulatory mechanisms with respect to their attractiveness to investors, effectiveness in launching new energy markets, cost efficiency, and guarantees to overcome investment-based risks accompanying increased governmental investments [32-35]. Their conclusions suggest that promoting solar power will benefit the overall economy.

2.2. The infrastructures for solar power development

Physical and service infrastructures related to solar power markets have received relatively limited attention from scholars, and yet, for emerging solar power industries to succeed requires reliable infrastructures to support everyday operations and long-term developments. Service infrastructure and high-quality ICT infrastructure are particularly important for new technologies. We differentiate the following elements [36, 37]:

- Physical infrastructures including communications, energy, high-speed ICT infrastructure, broadband, telephone, electrical grid, etc.
- Service infrastructures including knowledge and technical capacities, scientific and applied knowledge and skills, testing facilities, possibilities for knowledge transformation, banking, security and insurance services, patent protection, training, education, etc.

In general, the physical infrastructure needed for electrical supply is characterized by large scale, inseparability, and long periods of operation. The infrastructure required for the provision of solar power is based on the same physical infrastructure, meaning that additional costs can often be avoided, smoothing the way for investment by private interests. In this study, we emphasize the importance of an adequate service infrastructure as a necessary condition for supporting developed and/or incubating solar power markets.

2.3. Measuring the efficiency of governmental investment with a DEA approach

To measure efficiency, data envelopment analysis (DEA) can be applied to a wide swath of practical issues, including the efficiency of national energy markets. For example, an evaluation of energy utility efficiency in regions of China from 2000 to 2003 was carried out by Hu and Lee [38]. In that study, the inputs include labor, capital stock, gas and oil consumption and electricity consumption, while real gross domestic production (real GDP) is

the single output. Further discussion is offered by Honma and Hu [39], Honma and Hu [40]], who assess the relationship between extended inputs (including labor, private and government capital stock, and 11 energy factors) and a single the same output factor, real GDP. They use the DEA model to evaluate relative energy efficiencies and productivity growth in Japanese regions by employing panel data from 1993 to 2003.

Researchers regard energy efficiency as an important measure of relative national performance. Hawdon [41] employs DEA to study simultaneously the impacts of various policy developments on the relative performance of gas industries among 33 developed and developing countries. In this study, gas consumption and the number of customers are outputs; employment and length of pipelines are the inputs. Hu and Kao [42] adopt the DEA model to produce an environmental energy index for APEC countries from 1991 to 2000. Their study took labor, capital stock, energy consumption and CO_2 emissions as the inputs, and GDP as the only output.

Undesirable outputs, such as environmental pollutants, are inevitably produced as electricity is produced, transmitted, and consumed. Thus, evaluating maximum-output efficiency using the traditional DEA model does not suit this situation as undesirable outputs need to be specially dealt with by expanding the traditional DEA model. Fare, Grosskopf [19] propose the first extended DEA model to evaluate environmental efficiency while considering undesirable outputs with weak disposability. Now, most researchers focus on economic and financial efficiency, while also acknowledging and evaluating the importance of environmental efficiency. Zaim and Taskin [20] conduct cross-sectional comparisons of production processes in OECD countries, treating polluting emissions with a non-parametric approach. Talluri and Sarkis [21] summarize the various applications of the DEA model in research on environmental efficiency. Based on indicators in the DEA model proposed by

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Esty, Levy [43], namely, total final energy consumption, RE consumption and CO_2 emissions, Zhou, Ang [44] construct a sustainable energy index to determine the efficiency of sustainable energy development in APEC countries. They employ an efficiency analysis method based on the environmental DEA technique and non-radial DEA model for investigating carbon emissions within several countries [45, 46]. Gomes and Lins [47] develop zero sum DEA to evaluate the carbon emissions of 64 countries with reference to the Kyoto Protocol statement. Sozen and Alp [48] compare differences in environmental protection efficiency between Turkey and the EU countries by applying the values of emissions (such as CO_2 and SO_2) and pollutants as the outputs in the DEA model. Yeh, Chen [49] further integrate GDP, CO_2 and SO_2 emissions as positive and negative outputs to assess energy efficiency by representing the inputs for labor, capital stock and energy consumption in China and Taiwan from 2002 to 2007.

From the perspective of solar power promotion, the amount of electricity generated from solar resources increases as the efficiency of the generating capacity approaches established policy targets [7, 17, 18]. Previous studies applied the number of customers, the scope of service area, and electricity sales, as outputs in order to analyze the productivity of electricity generating industries in domestic markets; the inputs employed include the number of employees, length of the transmission network, and network losses [50, 51]. Zhou, Wang [7] employ a bi-level optimization approach to investigate cost efficiency by measuring the interventions of policy-makers. Deshmukh, Bharvirkar [17] maintain that governments adopt efficiency policies not only to fulfill targets, but to drive technological improvements and reduce the cost of solar power generation. In previous studies, it has been argued that FITs schemes would contribute so much to domestic fiscal burdens that governments should amend their policies on the basis of their particular economic situation in order to limit subsidies for the installation of solar power generation facilities. However, del Rio and Mir-

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Artigues [8] note that under such circumstances, limiting the subsidies available for new installations can encourage the use of more efficient technologies at existent installations.

In sum, researchers have constructed a variety of DEA efficiency models to consider: the impacts of desirable and undesirable outputs; levels of productivity; technical efficiency improvements; environmental performance evaluations; pollution emission assessments; and shadow prices of pollution estimates. Ekins [52] argues that price incentives are likely to be an important instrument for improving RE efficiency, and that the RE promotion may be successful in practical terms. Thus, Ekins asks, "How necessary are price increases to encourage behavior change (and reduced absolute levels of emissions) in a context of rising incomes?" An important element Song, An [53] consider is the impact of environmental pollutants and other undesirable outputs associated with resources invested in the production process, which increase or decrease with the level of desirable outputs. They also point out that when a decision-making unit improves efficiency one can increase desirable outputs while at the same time reducing undesirable outputs. In fact, the previous study demonstrates that within OECD countries, if the disposability of carbon emissions were strictly restricted by environmental regulations, overall GDP would fall as carbon emissions were reduced [20].

As Rayp and Van De Sijpe [54] write, there is no agreed upon means of evaluating governmental performance. This implies that in order to evaluate improvements to RE performance, first we must derive an estimate for governmental performance for RE. For this purpose, we opt for the data envelopment analysis (DEA) approach. The DEA model estimates the efficiency by 'enveloping' the data according to the assumption that the production possibility set is the smallest set that satisfies convexity and free disposability, while containing all observed combinations of multiple inputs and outputs. Next, 'efficiency'

is measured as the distance from the constructed production possibility frontier that indicates which outputs can be expanded given fixed inputs. The efficiency scores of DMUs are obtained by estimating the efficient frontier under the assumptions of (1) the constant returns-to-scale (CRS) which is known as a measure overall technical efficiency, and (2) the variable returns-to-scale (VRS) which represents pure technical efficiency.

As a result of greater environmental awareness and conservation in recent years, undesirable outputs (e.g. air pollutants and hazardous wastes) have aroused strong concerns [46, 55]. Thus, developing technologies that produce fewer undesirable outputs is crucially important in every field of production. For this reason, researchers assume that producing more desirable outputs relative to inputs, and fewer undesirable outputs, are important criteria of efficiency. In previous studies, researchers have proposed means of measuring such outcomes [19, 47, 56-58]. However, evaluating efficiency via the traditional DEA model of maximizing outputs or minimizing inputs is not well-suited to measuring reductions of undesirable byproducts as these need to be specially dealt with by expanding the traditional DEA model. Fare, Grosskopf [19] propose the first extended DEA model to evaluate environmental efficiency by considering undesirable outputs with weak disposability, and considering energy field studies, using undesirable DEA models; they designate DMUs with multiple inputs and outputs with reference to the studies of Fare, Grosskopf [19].

In the current study, we assume that certain undesirable outputs are not separable from the corresponding desirable outputs. Hence, reducing undesirable outputs is inevitably accompanied by a reduction in desirable outputs. Additionally, we observe that specific undesirable outputs are non-separable from specific corresponding inputs. In this study, for electrical utilization, carbon emissions are proportional to the energy resource consumption on the input side. The non-separable DEA model can deal with this situation after

decomposing the set of desirable and undesirable outputs into Y^{Sg} and (Y^{NSg}, Y^{NSb}), where Y^{Sg} denotes separable desirable outputs, and Y^{NSg} and Y^{NSb} inseparable desirable and undesirable outputs. The input set X is decomposed into (X^S, X^{NS}) where $X^S \in R^{m_1 \times m}$ and $X^{NS} \in R^{m_2 \times m}$ denote the separable and inseparable inputs respectively. For the separable outputs Y^{Sg}, we have the same structure of production as with the usual outputs. However, the non-separable outputs (Y^{NSg}, Y^{NSb}) need to be handled differently. A reduction in the undesirable outputs y^{NSb} is designed by αy^{NSb} with $(0 \leq \alpha \leq 1)$, which is accompanied by a proportionate reduction in the desirable outputs y^{NSg} as denoted by αy^{NSg} as well as in the non-separable input denoted by αx^{NS}.

In this study, the production possibility set under CRS is defined by

$$P_{NS} = \{(x^S, x^{NS}, y^{Sg}, y^{NSg}, y^{NSb}) \mid x^S \geq X^S\lambda, x^{NS} \geq X^{NS}\lambda, y^{Sg} \leq Y^{Sg}\lambda, y^{NSg} \leq Y^{NSg}\lambda, y^{NSb} \leq Y^{NSb}\lambda, \lambda \geq 0\}$$

We alter the definition of the efficiency status in the non-separable case as follows:

A DMU $(x^S_0, x^{NS}_0, y^{Sg}_0, y^{NSg}_0, y^{NSb}_0)$ is recognized as efficient in this study if, and only if,

(1) for any $\alpha(0 \leq \alpha < 1)$, we have $(x^S_0, \alpha x^{NS}_0, \alpha y^{Sg}_0, \alpha y^{NSg}_0, \alpha y^{NSb}_0) \notin P_{NS}$, and

(2) there is no $(x^S, x^{NS}, y^{Sg}, y^{NSg}, y^{NSb}) \in P_{NS}$ such that

$$x^S_0 \geq x^S,\ x^{NS}_0 = x^{NS},\ y^{Sg}_0 \leq y^{Sg},\ y^{NSg}_0 = y^{NSg},\ y^{NSb}_0 = y^{NSb}$$

with at least one strict inequality.

We implement this model by the program (DEA Solver PRO) in

$(\lambda, s^{S-}, s^{NS-}, s^{Sg}, s^{NSb}, \alpha)$

under additional constraints as follows:

$$\rho^* = \min \frac{1 - \frac{1}{m}\sum_{i=1}^{m_1} \frac{s_i^{S-}}{x_{i0}^S} - \frac{1}{m}\sum_{i=1}^{m_2} \frac{s_i^{NS-}}{x_{i0}^{NS}} - \frac{m_2}{m}(1-\alpha)}{1 + \frac{1}{s}\left(\sum^{s_{11}}_{r=1} \frac{s_r^{Sg}}{y_{r0}^{Sg}} + \sum^{s_{22}}_{r=1} \frac{s_r^{NSb}}{y_{r0}^{NSb}} + (s_{21} + s_{22})(1-\alpha)\right)}$$

Subject to

$$x_0^S = X^S\lambda + s^{S-}$$

$$\alpha x_0^{NS} = X^{NS}\lambda + s^{NS-}$$

$$y_0^{Sg} = Y^{Sg} - s^{Sg}$$

$$\alpha y_0^{NSg} \leq Y^{NSg}\lambda$$

$$\alpha y_0^{NSb} = Y^{NSb}\lambda + s^{NSb}$$

$$\sum_{r=1}^{s_{11}} y_{r0}^{Sg} + s_r^{Sg} + \alpha \sum_{r=1}^{s_{21}} y_{r0}^{NSg} = \sum_{r=1}^{s_{11}} y_{r0}^{Sg} + \sum_{r=1}^{s_{21}} y_{r0}^{NSg} \quad (a)$$

$$\frac{s_r^{Sg}}{y_{r0}^{Sg}} \leq U(\forall r) \quad (b)$$

$$s^{S-}, s^{NS-}, s^{Sg}, s^{NSb}, \lambda \geq 0, 0 \leq \alpha \leq 1,$$

where s_{11}, s_{21}, s_{22} are numbers of the elements in *Sg*, *NSg* and *NSb* respectively, and $s = s_{11} + s_{21} + s_{22}$. The constraint *(a)* is added in order to ensure that the total number of desirable outputs remains unchanged. The constraint *(b)* is added in order to restrict to a reasonable range the expansion of separable, desirable outputs.

$$y_0^{NSg} \Leftarrow y_0^{NSg} + s^{NSg*}$$

$$y_0^{NSb} \Leftarrow y_0^{NSb} - s^{NSb*}$$

Furthermore, we decompose

Finally, let an optimal solution of the above program be $\rho^*, \lambda^*, s^{S-*}, s^{NS-*}, s^{Sg*}, s^{NSg*}, s^{NSb*}, \alpha^*$ then we have $0 < \rho^* \leq 1$, and it holds that $\rho^* = 1$ *if, and only if, the DMU is efficient under conditions*. If the DMU is inefficient, it can be improved and made efficient by the projection below:

$$x_0^S \Leftarrow x_0^S - s^{S-*}$$

$$x_0^{NS} \Leftarrow \alpha^* x_0^{NS} - s^{NS-*}$$

$$y_0^{Sg} \Leftarrow y_0^{Sg} + s^{Sg*}$$

this overall efficiency into the respective inefficiencies as follows:

$$\rho^* = \frac{1 - \sum_{i=1}^{m_1} \alpha_{1i} - \sum_{i=1}^{m_2} \alpha_{2i}}{s_{11} \quad s_{21} \quad s_{22}} \Big/ \left(1 + \sum_{r=1} \beta_{1r} + \sum_{r=1} \beta_{2r} + \sum_{r=1} \beta_{3r}\right)$$

Where

$$\alpha_{1i} = \frac{1}{m}\frac{s_i^{S-*}}{x_{i0}} \quad (i = 1, \dots, m) \textit{ (Separable inputs)}$$

$$\alpha_{2i} = \frac{1}{m}(1 - \alpha^*) + \frac{1}{m}\frac{s_i^{NS-*}}{x_{i0}} \quad (i = 1, \dots, m_2) \textit{ (Non-separable inputs)}$$

$$\beta_{1r} = \frac{1}{s}\frac{s_r^{Sg*}}{y_{r0}^{Sg}} \quad (r = 1, \dots, s_{11}) \textit{ (Separable desirable outputs)}$$

$$\beta_{2r} = \frac{1}{s}(1 - \alpha^*) \ (r = 1, \dots, s_{21} \textit{ (Non-separable desirable outputs)}$$

$$B_{3r} = \frac{1}{s}(1 - \alpha^*) + \frac{1}{s}\frac{s_r^{NSb*}}{y_{r0}^{NSb}}(r = 1, \dots, s_{22}) \textit{(Non-separable undesirable outputs)}$$

2.3.1. Indicators

2.3.1.1. Electricity utilization indicators: DEA inputs

Electricity markets can be organized through various governmental interventions, such as the creation of electricity markets, by considering the various resources and infrastructures needed. In this study, solar power is defined as electricity generated solely from solar irradiation via solar photovoltaic and/or solar thermal installations. Governments implement regulatory policies and cover the costs associated with the incentives and expenditures required to create a new market in solar power. In general terms, the public electrical infrastructure should be recognized as contributing importantly to the quality of the electricity supply. Three approaches are available for measuring renewable electricity utilization. Under the first approach, governments introduce incentives to help establish emergent market mechanisms, and RPS, FIT schemes and other incentives are included in the budget as an annual government expenditure [7-9, 12, 31]. Under the second, we employ gross fixed capital formation as a proxy for investment in the national infrastructure for electricity utilization [7-9, 12, 31]. From the viewpoint of electricity consumption, all electricity users have to submit an application to the utility for the installation and transportation of conventional electricity and/or renewable electricity. The time required for

connection to the grid to get electricity from the generating utility depends on the state of the electrical infrastructure, including the application processes, grid intensity, electrical generation and stock capabilities. Third, price indices of the means of electricity production are composed of several categories, including RE resources, clean energy resources, and conventional energy resources. For some major markets in renewables, researchers observed that, as a practical matter, users will absorb extra expenses; these are the added cost of purchasing renewable electricity and additional administrative charges levied by the utilities. Thus, it can be assumed that renewable electricity markets mature as national incomes increase [7-9, 12, 31].

Therefore, we propose using four electricity utilization indicators as DEA inputs. These are *total government expenditure (EXP), gross fixed capital formation (GFCF), total income per capita (INC),* and *days required getting electricity (DAY)*. Here, *days required getting electricity* is recognized as a non-separable input for measuring electricity utilization in terms of generation, transportation, and supply, and needs to be taken into consideration when users apply to use electricity.

2.3.1.2. *Electricity consumption indicators: DEA outputs*

An electricity utilization output indicator(s) can be defined as economic and/or environmental indicator(s) reflecting performance in the market. It is obvious that the indicators (1) make developed-solar-market countries easy to understand in terms of how near electricity utilization is to achieving the supra-national and/or intra-national targets, and (2) assist countries with newly established solar markets in spurring on market development. National energy, economic, and environmental output indicators are frequently used in such literature as the IEA survey and practices embodied in the Directives [2, 12, 39, 43, 53, 55]. These indicators are: *gross domestic production, solar power as a percentage of total*

electricity consumption, *total electricity consumption,* and *CO_2 emissions*.

(1) *Gross domestic production (GDP)*: The most comprehensive measure of national output associated with the implementation of a renewable electricity policy.

(2) *Solar power generation as a percentage of total electricity consumption (PRE)*: A target common to several countries is increasing the percentage of total electricity generated by solar power. The percentage of electricity generated by solar installations is based on government-set RE development targets. For example, in German, Spain and France, countries with advanced RE installations, production targets are set at 18% to 23% of total energy consumption by 2020; in China, Taiwan, Malaysia and Indonesia – latecomers to RE markets – the targets range from 10% to 24%. Roughly speaking, the average target is 20% by some point between 2020 and 2030.[1] Here, the target is solar power as carbon emissions over the lifecycle of the infrastructure, from manufacturing through to recycling, are nearly zero. To reduce carbon emissions, governments can incentivize private parties to install solar power generators. Thus, in this study, this output (PRE) is positively non-separated with undesirable outputs described below (4).

(3) *Ratio of total electricity generation (TEG)*: A measure of electricity utilization that includes renewable, clean, and conventional electricity generation. Increasing the share of solar power generation contributes directly to meeting government conservation and emissions targets, and as such is recognized as a desirable outcome.

(4) *CO_2 emissions relative to GDP (COE)*: A form of air pollution derived from national economic activity. Several governments concerned with the impact of carbon emissions have begun considering reducing carbon emissions by implementing RE

[1] See the details of other countries in the website of International Energy Agency (IEA): http://www.iea.org/policiesandmeasures/renewableenergy/

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generation and/or advocating energy conservation. The researcher considers undesirable outputs inseparable from the corresponding desirable outputs [59], and reductions in undesirable outputs as unavoidably accompanied by reductions in desirable outputs. The inseparability of desirable and undesirable outputs should be taken into account in applying the DEA model.

3. Results

Although there is relatively little research on solar power production and investment, some information is available on costs and productive inputs for making international comparisons. This study uses country-level data derived from estimating the performance of the solar power policies of these 25 countries (See Appendix A). This study employs seven variables as inputs and outputs. Inputs include *EXP*, *GFCF*, *INC* and *DAY;* outputs include *GDP*, *PRE*, *TEG* and *COE*. The data is derived from World Development Indicators and the Doing Business Database of the World Bank, the Statistical Review of World Energy of the British Petroleum Company, and the National Statistics of Taiwan's Statistical Bureau.

The data on solar power markets sampled in this study are drawn from 25 countries over a four-year period. Summary statistics are shown in Table 2 for the solar power markets. For the given years, average percentages of government total expenditure and investment to GDP are approximately 42 and 22, and the standard deviations are much lower than the averages, indicating that governments are devoting similar percentages of GDP to developing solar power markets. However, the standard deviations for CO_2 emissions and total electricity generation are both much higher than average, implying that some countries' CO_2 emissions and total electricity generation, for example, in 2009, are much lower than the reported 625 tons and 399 tons, while others are significantly higher.

Table 3 lists the results of correlation analysis between inputs and outputs. The

correlation analysis shows clearly that most of the correlation coefficients between outputs and inputs are significant. In this study, the first step in the DEA model involves determining the positive/negative relationship between inputs and outputs. Here, we employ a Pearson correlation analysis to test for isotonicity, that is, the positive and negative directions of the relationships between inputs and outputs. Based on the results of the inter-correlation analysis, the correlation coefficient between INC, EXP and PRE is significantly positive, meaning when a government gives greater financial support to develop and bolster the incomes derived from solar power generation, its proportion increases; the correlation coefficient (COE) between GFCF and TEG is significantly positive, meaning that as government investment in infrastructure increases, total electricity generation and CO_2 emissions will also increase. The correlation coefficients DAY and PRE are significantly negative, meaning that the increase in the required days for getting electricity supply will decrease the proportion of electricity derived from solar resources.

The DEA analysis of the data presented in Table 4 was performed using the DEA Solver Pro software package. The efficiency scores of countries in various years (year-country) are examined according to the CRS and VRS assumptions separately. The efficiencies of the various countries show that in developing solar power markets, some countries are relatively more competitive than others.

Table 4 shows that, at points between 2009 and 2012, 46 of 100 DMUs may be considered to have been efficient markets (in terms of the GDP and PRE) under the CRS assumption. The efficient countries were: in 2009, Austria (AUT), Denmark (DNK), France (FRA), Germany (DEU), Portugal (PRT), Spain (ESP), Sweden (SWE), Switzerland (CHE), and Japan (JPN); in 2010, Austria, Belgium (BEL), Czech Republic (CZE), Denmark, France, Germany, Portugal, Spain, Sweden, Switzerland, Australia (AUS), and Japan; in

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2011, Czech Republic, Denmark, France, Germany, Greece (GRC), Italy (ITA), Spain, Sweden, Switzerland, Australia, and Japan; in 2012, Austria, Belgium, Bulgaria (BGR), Czech Republic, Denmark, France, Germany, Greece, Italy, Spain, Sweden, Switzerland, Australia, and Japan. When VRS is assumed, about three-quarters of the countries may be considered efficient (see details in Table 4). As expected, the VRS efficiencies, which measure pure technical efficiencies and exclude effects due to the scale of the operations, are larger than the corresponding CRS efficiencies. For instance, the CRS efficiencies of India (IND) are between 0.65 and 0.71 during the given time frame, but their scores increase to 1 under the VRS assumption. The CRS efficiency score is lower because this country does not operate at the best possible scale. The ratio of CRS and VRS is the scale efficiency. For example, in each year, the scale efficiency of Mexico is lower than 0.1, meaning that the country is unable to reach unit efficiency because it is not operating at the most productive scale, and at present the size of its operations reduces its pure technical efficiency (i.e. the VRS efficiency) by 99%. When VRS is assumed, Mexico, Greece, Bulgaria, Portugal, Israel, and India, in some of the given years, may be considered efficient. This suggests that the CRS inefficiencies of these four countries are due to the fact that they are not operating at the best possible scale.

In 2009 and 2010, pure technical efficiencies in Italy were inefficient, which led to overall inefficiencies, but the total efficiencies in 2011 and 2012 increased to 1.

Government resource managers and policy-makers are interested in estimating how much a particular desirable output can be increased, and/or an input reduced, in the process of improving energy efficiency. Great efficiency in the use of specific inputs is necessary if solar electric markets are to operate most efficiently. In order to discover how increases in desirable outputs could be achieved with lower levels of resource inputs, we turn to

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differences between solar electric markets across the 25 sampled countries. After applying DEA to the efficiency evaluation, each country is assigned benchmark peer(s) on the basis of efficiency. For example, Taiwan's peers in 2012 are Germany, Switzerland, China and Japan, meaning that Taiwan in 2012 could attempt to emulate these four countries (as far as the proportion of solar power is considered) in order to improve the efficiency of solar electric utilization to the point that Taiwan could be considered the best in the DEA study. Similarly, less efficient countries can set target values for projections for both input and output. Tables 5 and 6 report on improvements with the potential to increase total efficiency under the CRS and VRS assumptions respectively: less efficient countries can improve efficiency by decreasing resource inputs, undesirable outputs, and/or increasing desirable outputs. For each less efficient country, we break down their inefficiencies in terms of specific outputs and inputs, in percentage terms calculated by "(target value of projection – initial value) divided by initial value" of each input and output. Tables 5 and 6 answer the questions: (1) to what extent can governments further decrease the support on offer while maintaining electricity utilization at the current level?; and (2) to what extent can governments increase solar power generation and simultaneously decrease CO_2 emissions?

Referring to Tables 5 or 6, policy makers can select a peer country to serve as a model for improving the performance of less efficient countries based on their preferences. For instance, in terms of total efficiency under the CRS assumption (see Table 5), total government expenditure and investment, days for getting electricity, total electricity generation and CO_2 emissions in Taiwan, in 2012, (12TWN) should be reduced by 0.9%, 1.6%, 0.7%, 0.7%, and 0.7%, respectively, and its proportion of solar power should be increased by 20%. After those improvements, 12TWN would be as efficient as other countries in its peer group. In terms of the total efficiencies of all the sampled countries, the average potential improvements are: total expenditure, -19.8%; gross fixed capital formation,

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-17.3%; net income per capita, -11.4%; days for getting electricity, -24.3%; GDP, 1.1%; proportion of solar power, 7.2%; total electricity generation, -16.8%; and CO_2 emissions, -21.7%.

Table 7 summarizes the averages of the efficiency scores of countries from 2009 to 2012. This table also presents the rate of change in 2012 with those of 2009 – 2011. For instance, between 2009 and 2012, the rate of change in total efficiency under the CRS assumption showed a 22.83% improvement. From this finding, we may infer that policy makers made progress in improving total efficiency between 2009 – 2011 and 2012, but the average is sensitive to outliers. Closely examining Table 3, one notes that the total efficiency of the Israeli market declined by 0.305% between 2011 and 2012, calculated by (VRS of 12ISR) – (VRS of 11ISR). If the outlier is excluded from the computation on average, both total and pure technical efficiencies would show improvement from 2011 to 2012.

Fig. 1 displays trends in the two efficiency scores over time, indicating: (1) the total efficiency increases significantly from 2009 to 2012, though only marginally in the mid-term period 2010 to 2011; and, (2) pure technical efficiency significantly increases from 2009 to 2012, though only slightly from 2011 to 2012. Both efficiencies are satisfactory for countries during the given period, particularly the pure technical efficiency trend towards 1.

Fig. 2 shows the averages of total efficiencies and pure technical efficiencies of developed and developing countries. According to these figures, the pure technical efficiency of developing countries are, on average, greater than that of developed countries, possibly because in recent years policy makers in developing countries have paid more attention to stimulating solar power generation. For example, in China, the government has been making an all-out effort to support the domestic solar power market in recent years. This external factor will influence the fluctuation of pure technical efficiency, however, the total efficiency

of developed countries appears to be significantly greater than that of developing countries, as expected.

4. Discussion and Conclusions

The transformation of an economy driven by conventional energy into one based on RE is an attractive option for many countries, despite the inevitability of environmental pollutants as undesirable byproducts. With 25 solar power markets examined here, this study provides a means of ranking solar power stimulus programs in terms of environmental protection and economic growth.

This study evaluates productivity performances of countries with panel data covering the period of 2009 – 2012. According to the case study results, although the pure technical efficiencies of developing countries is, on average, greater than that of developed countries, the total efficiencies of developed countries appear significantly greater than those of developing countries. From the results of examining the average potential improvements, in the future, "days for getting electricity" should be tackled first, and then policy makers should reduce the percentage of total expenditures devoted to subsidizing deployment and generation; also, they should pay particular attention to reducing CO_2 emissions during the generation phase. In evaluating two types of efficiency associated with solar power development with the Non-Separable DEA model, two options for energy, environmental, and economic policy-making emerge. One focuses on increasing the competition of their electricity markets with liberalization and to scale back their interventions and fiscal supports for the solar power production. The other focuses on targeting the infrastructures necessary for solar power utilization. The advocacy efforts shaped the objective (here is outputs) and its policy processing framework (in this study, we consider inputs as proxies of fiscal support)

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importantly clue to understanding the advantage and drawback of incentives for solar power. Below we elaborate how some key principles contributed in practice to shaping the policy based on the policy framework in the three developed EU countries and then illustrate the extension for solar power diffusion in developing countries.

4.1. Liberalization of electricity markets and competition in a regulated-network environment

From our results, the efficiencies in some countries, such as Spain and Germany, remained efficient in the period from 2009 to 2012, despite the termination or scaling back of the financial supports provided by the governments prior to 2008. This implies that solar power markets in these developed countries have been able to operate according to existing market structures and mechanisms without any need for governmental intervention. With the implementation of Directive 96/92/EC, the EU Member States have liberalized their electricity markets and created full competition in some Member States, which subsequently brings about efficient electricity transaction and more efficient investment decision-making. For example, since Lisbon European Council held on 23 and 24 March 2000 when the EU pronounced the need to develop RE, the cumulative installed capacity in Germany had grown significantly. In view of the full competition market in Germany, all suppliers could freely deliver solar power to their customers with a competitive price, which contributes to the growth of the market share of solar power in electricity markets.

Therefore, a sound and competitive electricity market would contribute to the efficiency of solar power production and open a window of opportunity for the governments to scale back their subsidies. This lesson may be helpful for latecomers in solar power, such as Taiwan and China. Thanks to the maturity of the solar equipment industries and the rapidity with which they achieved a significant production capacity, efficiencies in Taiwan and China,

regardless of their late arrival in the solar power markets, are relatively high. Differing from electricity market in Germany and Italy, electricity markets in Taiwan and China, just as most developing countries, are highly regulated and not yet liberalized. This highly regulated nature of electricity markets may discourage the private from investing costly solar power deployments. Thus, the task for policy-makers is to enhance the competition of electricity markets, by way of liberalization or other policy tools, with due consideration of their local contexts.

4.2. Complementary service infrastructures in conjunction with incentive mechanisms

In this study, we find that service infrastructures play important roles. Less efficient latecomers can improve efficiency by infrastructural capacity building. For example, Italy did not opt for feed-in-tariffs; nonetheless, its solar power production was among the efficient group. This may be attributed to Italian service infrastructure which is associated with the tradable green certifications (TGCS) and net metering of RE by GSE [2] from 2009. The fluctuation of TGCs price in Italy according to the production of other RE resources implies that in the case where expected revenues are high enough to encourage electricity generation from wind turbines or biomass plants, the solar power systems also receive high revenue. By contrast, in the absence of production from other RE resources, TGCs might be temporarily worthless due to the competition among solar power deployments during the period. The public-owned company in Italy enables TGCs within the private electricity market to operate: the company has to guarantee to purchase back unsold solar power in order to overcome barriers and risks of investors. As another solution to deal with the surplus of production capacity may be to sell the certificated electricity within the electricity markets by mutual agreements in the future.

[2] GSE is the government-owned company with the mission of promoting RE.

That is, incentive subsidy and other schemes such as TGCs can be mutually supportive and contribute to the currently cost-ineffective solar power technology to develop and diffuse in the long run. For developing followers such as Taiwan, a latecomer to the solar power market, the technology advantage of solar equipment production has to be premeditated when the policy-makers plan or revise the existing Renewable Development Act. In this way, the policy-makers need to systematically consider the information of technology evolution and the experiences from advanced countries measuring the framework we employed.

Summing up, it can be concluded that the design elements (total government expenditure, gross fixed capital formation, total income per capita and days required getting electricity) of the support mechanisms are by far the most important criteria with respect to the solar power research, development and demonstration and their foreseeable future subject to conditions of developing followers. In this study, we obtain some experiences from some main countries of the EU. From perspective of stimulating the solar power market in some followers, Germany is just considered as a unique benchmark in the worldwide electricity market through promoting solar power with capitalistic incentives. The policy-makers should modify the original incentives by referring to their contexts and/or referring the similar market to localize the instruments efficiently.

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The Effects of Financial Statements' Reliability and Risk Attitude on Cost of Debt for the SMEs Loan: Evidence from Thailand

Jatuwit Khieochaum
Department of Accounting
Faculty of Commerce and Accountancy, Chulalongkorn University

Uthai Tanlamai
Department of Accounting
Faculty of Commerce and Accountancy, Chulalongkorn University

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ABSTRACT

This study examines whether financial statements' reliability, which is measured by type of auditor's report, and the risk attitude of a credit officer will have combine effect towards individual decision on cost of debt. We conduct a 3x3 between-subjects experiment with three levels of financial statements' reliability (unqualified, unqualified with the emphasis of matter paragraph and qualified auditor opinion) and three levels of risk attitude (risk lover, risk neutral and risk averse). The results show that there are very few risk lover credit officers, thus, subsequent analyses of the experiment are based on three levels of reliability and two levels of risk attitude. The results suggest that risk attitude influences the credit officers' decision on cost of debt for SME's loans. However, no significant difference was found in the cost of debt granted among 3 types of auditor's report. The preliminary findings suggest that auditor's report does not convey the information content the auditor intends to communicate to users, in this case, the credit officers who engage in SMEs lending process in Thai environment**.**

Keywords: Financial statements' reliability, Auditor's report, Risk attitude, Credit officers, Cost of debt

1 INTRODUCTION

To promote SMEs as part of the country's sustainable economic development becomes an important policy to respond to financial crisis by many countries, including Thailand. SMEs play a significant role in several economy. They are the key generators of employment and income and drivers of innovation and growth. In 2013, Thai SMEs accounted for the GDP value of 4,454,939.6 million Baht or 37.4% of the entire country's GDP [1]. To survive and continue growing, SMEs rely on banks for their source of funds which is in the form of indirect financing or effectively the loans from commercial banks. Banks, on the other hand, have a formal loan evaluation process where the credit analyst will assess the creditworthiness of an SME using its audited financial statements and related auditor's report during the credit approval process. Thus, auditor's report and financial statements play a major role in loan decision process.

The mainstream research about the usefulness of auditor's reports in credit approval process prevails in North America and other industrialized countries but the findings are still inconclusive. In Thailand, we found few researches in this stream even though loans from commercial banks are important to SMEs' source of funds. This study focuses on the financial statements' reliability, which are measured by type of auditor's report, and the variable that affects a person's decision which is the risk attitude of a credit analyst.

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2 LITERLATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Accounting information in the financial statements is employed in many business decisions, including the very important area of loan decision process [2]. Therefore, credit analysts are one of the most important user groups, especially in bank-based economy countries. Nonetheless, financial statements are not always accurate. Accompanying each set of financial statements is an auditor's report which typically reflects the reliability of the statement. Auditors use an auditor's report to communicate the results of their audit processes to the users of financial statements and other interested parties.

When a financial statement is audited using the Generally Accepted Auditing Standards (GAAS) and is recognized to be without any material misstatement according to the Generally Accepted Accounting Principles (GAAP), an unqualified opinion will be issued. However, if there is a material misstatement in the financial statements, or if there is a restriction in the scope of audit work as required by the GAAS, the auditor may issue a qualified opinion. The qualified opinion will be issued only if such material misstatement and/or scope of audit work does not have pervasive effect on the financial statements. Furthermore, the auditor must issue an adverse opinion if the material misstatement has pervasive effect on the financial statements. If a restriction in the scope of audit work has pervasive effect on the financial statements or there is a significant uncertainty around the audit engagement, a disclaimer of opinion will then be issued. Finally, if there is some matter necessary to draw users' attention (but has no effect on the opinion); the emphasis of matter paragraph should be added immediately after the opinion paragraph [3]. Although there are 4 audit opinions, the unqualified and qualified are most commonly applied in practice [4].

The findings of prior studies related to the usefulness of auditor's reports are still inconclusive. Some of them found the usefulness and/or relevance of the information content in the audit's report [5-7]. However, other studies find no effect of the information content in the audit's report, especially those dealing with the credit analysts' decisions [4, 8-11]. In Thailand, there are limited numbers of studies addressing the understanding of auditor's reports by financial statement users. The results showed that users' attention was likely to increase when the emphasis of matter paragraphs was in the auditor's report. The emphasis paragraphs negatively affected user's decision making [12]. Based on previous findings, the first hypothesis to be investigated in this study is specified as follows:

H1: The financial statements' reliability has the effect on credit analyst's decision.

Decisions may be influenced by individual characteristics (or personality-like variables). One such characteristic is a person's risk attitude. Risk attitude is formally modeled as the shape of a decision maker's utility profile [13]. In the expected utility (EU) theory [14], three alternative views concerning the choice between a risky outcome and a certain outcome, risk averse, risk neutral, and risk lover. Some people prefer to avoid risk (risk averse), others enjoy engaging in risk (risk lover), and still others are indifferent (risk neutral). Since loan decision process involves protection against risk of loss, credit analysts may be influenced by theirs risk attitude: individuals who are risk averse might prefer to grant high interest premium. Previous empirical and experiment studies assume that most people are risk averse. Thus, a number of studies have ignored risk attitude variable, especially in the experimental studies, which used randomization to level out the effect of this variable across treatments. Consequently, rarely any experimental accounting studies included risk attitude variable in their settings [15]. Among these rare studies, Greer [16] found that management decision process violated managers' risk attitude. Using standard gamble to assess risk attitude of audit partners, Newton [17] found the effect of risk attitude on materiality decisions. Hilton, Swieringa [18] compared the risk neutral and risk averse student subjects. They found that the risk neutral students

were more complied with the theory of the firm than the risk averse students. To the best of our knowledge, no study to date has examined the risk attitude of a credit analyst. Thus, the second hypothesis to be investigated in this study is specified as follows:

H2: The risk attitude has the effect on credit analyst's decision.

Combining H1 and H2, the third hypothesis to be investigated in this study is as follows:

H3: The financial statements' reliability and risk attitude have an effect on a credit analyst's decision.

3 RESEARCH METHODOLOGY

Laboratory experiment implying conditions that allow researchers to directly control all or nearly all important factors that may affect the experimental result [19] was employed in this study. The mock-up cases written for the experiment were drawn from the actual credit approval process of a commercial bank.

3.1 The Research Instrument

The data collection instrument used in this research was designed by the researchers. A customized web-based application was developed to be used with the Personal Area Network (P.A.N.) configuration.

The risk attitude test used in the study is a refinement of existing instruments to fit Thai setting. Thirty items from Domain-Specific Risk Taking (DOSPERT) [13] and 25 items from Passive Risk Taking (PRT) [20] were translated with back translation technique. The DOSPERT scale assesses risk taking in five content domains. The PRT scale, in contrary, measures personal tendency for passive risk taking - risk brought on or magnified by inaction - in three.

The final risk attitude test instrument includes two development steps. The first online self-report questionnaire with 55 items was sent to general public asking about the appropriate of each item within Thai environment. The top 30 items (7 items from DOSPERT and 23 items from PRT) remain. The second online self-report questionnaire uses a psychometric scale to divide people into 3 groups depending on their risk attitude scores. This second online questionnaire uses a 5 points Likert's scale ranging from 1 (very unlikely) to 5 (very likely) asking the respondents to assess how likely they are to act in the way to describe in each item. With 394 respondents, the exploratory Factor Analysis was applied and 13 items (from 30 items), that had loading > 0.3 were chosen with an overall Cronbach's alpha at 0.71. Using the method from Weber, Blais [13], individuals were classified as risk lover if the score is more than one standard deviation above the mean, as risk averse if their score is more than one standard deviation below the mean, and as risk neutral if their score is in between.

Mockup cases, based on a real company, were developed by the first author. The case company was set for the medium-sized enterprise only. This is because during the pre-study stage, the experts agreed that small-sized enterprises often lack good accounting system which makes their financial statements unreliable [1]. Credit scoring model in the mockup cases was developed by basing on the Sample Credit Scoring Model developed by USAID Jordan Economic Development Project [21] to assist Jordanian banks in developing an SME scoring model. Cases and the sample model were commented and revised by two credit managers from two Thai commercial banks to ensure the valid use for Thai SMEs.

The auditor's report and financial statements were developed by the first author and reviewed for the reasonableness of audit opinion by 3 audit partners from 2 Big4. Three types of auditor's

reports are manipulated in this study: unqualified audit opinion, unqualified with the emphasis of matter paragraph, and qualified audit opinion.

3.2 The Sample

The population of this study are credit analysts working in 14 Thai commercial banks that have experience in granting loan to SMEs. Forty one credit analysts (from 3 Thai commercial banks) participated in this present study.

3.3 The Task

There are 5 sections in Customized Application as follow:

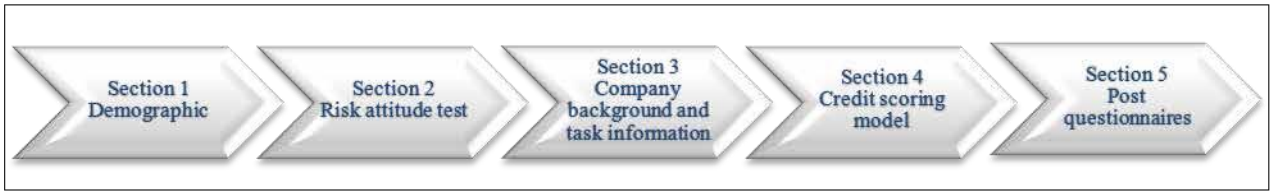


Figure 1: Experiment Flow

Each subject was given (1) Personal laptop with Customized Application Software and (2) a booklet containing instructions and experiment flow. In the application, the tutorial VDO was presented to the subjects before section 1. In section 2, the subject would answer the 13 items risk attitude assessment questionnaire. Depending on his or her score, the subject was classified as being risk lover (RL), risk neutral (RN) or risk averse (RA). In section 3, one of 3 types of auditor's report (Unqualified, unqualified with the emphasis of matter paragraph and qualified audit opinion) was assigned by the software. In section 4, the subject was asked to complete the credit scoring model by calculating 5 financial ratios (Debt-to-Equity Ratio, Quick Ratio, Sales Growth Ratio, Net Margin, and Inventory Turnover). Finally, the subject was asked to make the interest premium decision.

4 RESULTS

This paper presents a preliminary result from 41 credit analysts (from 3 commercial banks). Since there are only 2 risk lovers participated, further analyses are based on 3x2 between-subjects experiment with 39 credit analysts.

Table 1, Panel A presents the descriptive statistics on the interest premium and Panel B provides the ANOVA analysis with adjusted $R^2 = 0.191$. The main effect of *Report* is not statically significant ($p = 0.241$), but the *Risk* is ($p = 0.002$). The interaction effect, *Report x Risk*, is not statically significant ($p = 0.321$).

Test of simple main effects indicate that the financial statements' reliability have no effect on credit analyst's decision, H1 is rejected. In contrast, the risk attitude has the effect on credit analyst's decision, H2 cannot be rejected. The estimated marginal mean of interest premium are graphed in Figure 2. For H3, the combine effect of the financial statements' reliability and risk attitude does not have any effect on credit analyst's decision, H3 is rejected.

The results suggest that auditor's report does not convey the information content the auditor intends to communicate to users. In this study, risk attitude is the only important variable in loan decision process.

Table 1: Effects of Financial Statements' Reliability and Risk Attitude on Cost of Debt

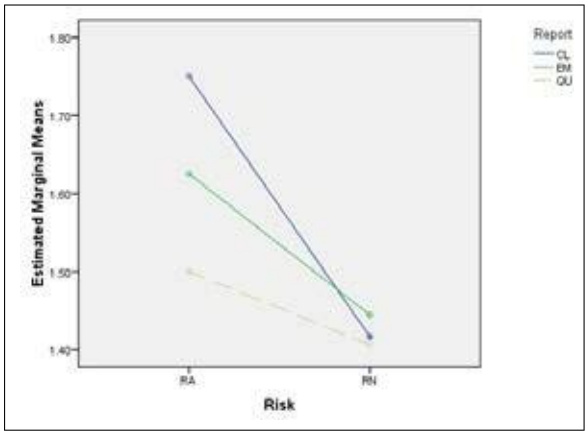
Panel A: Descriptive Statistics

Report		Risk	
		Risk Averse	Risk Neutral
Unqualified	Mean	1.750	1.417
	s.d.	0.204	0.129
	Sample Size	4	6
Emphasis	Mean	1.625	1.444
	s.d.	0.209	0.208
	Sample Size	6	9
Qualified	Mean	1.500	1.406
	s.d.	0.158	0.186
	Sample Size	6	8

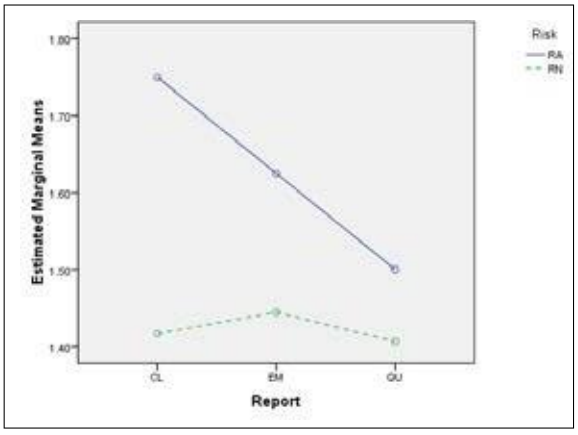
Panel B: Univariate ANOVA

Effect	Type III Sum of Squares	df	Mean Square	F	Sig.
Report	0.103	2	0.051	1.485	0.241
Risk	0.374	1	0.374	10.824	0.002**
Report x Risk	0.081	2	0.041	1.176	0.321

R Squared = 0.298 (Adjusted R Squared = 0.191)



Panel A: H1



Panel A: H2

Figure 2: Graphical Representation of Results

5 CONCLUSION

Using the initial credit approval process context, we conduct an experiment to investigate the effects of financial statements' reliability and risk attitude of credit analysts on their decision. We find the only effect from the risk attitude. Our findings suggest that financial statements' reliability via auditor's report does not have any bearing on the analyst's decision during the loan approval processing. One possible explanation regards to the no effect of auditor's report on analysts'

decision is a relatively small sample size. The second explanation could be that the misstatement information in qualified audit opinion is not significant in the eyes of credit analyst. Future research should make a greater effort in acquiring a larger sample size since it can definitely increase the power of analyses.

This study addresses issue relating to credit analysts who are an important group of financial statement users during their initial credit approval process. Since accounting research within bank lending context is rare, the research contributes to both academic and practical fields.

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Acculturation and Job Satisfaction among Vietnamese Graduates Working in Japan

Nguyen Hoang Duy Phuong

College of International Management

Ritsumeikan Asia Pacific University

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ABSTRACT

At present, much empirical research regarding the relation between acculturation and job satisfaction of expatriates working in the host countries has been carried out. Nevertheless, the research on Vietnamese workers in Japan is currently unavailable. Even though the number of Vietnamese students successfully getting jobs in Japan is very impressive, there is the lack of feedback and information about their job satisfaction and career life after graduation. The substantial differences in culture, language, social manner and organizational behaviors are predicted to be a hinderance for them in getting accustomed to their workplaces. Based on the case of Vietnamese students graduating from Ritsumeikan Asian Pacific University (APU), this research firstly aims to examine the acculturation process of Vietnamese APU graduates in their Japanese workplaces. Secondly, the research also aims at figuring out how acculturation influences job satisfaction among the Vietnamese graduates. In order to assess the correlation between the two variables of acculturation and job satisfaction in this research, acculturation and job satisfaction theory will be applied using quantitative methodology. Acculturation is measured by adopting the unidimensional model, while job satisfaction is measured by utilizing the short form of the Minnesota Satisfaction Questionnaire. The survey of a sample of 41 Vietnamese APU graduates is expected to produce useful information for Japanese domestic companies and organizations to better manage their Vietnamese employees.

Keywords: acculturation, job satisfaction, Vietnamese graduates, APU.

1. INTRODUCTION

Acculturation and job satisfaction were the two significant variables usually utilized in examining expatriate workers' performance, commitment, professional growth and psychological health in their workplace (Applebaum, Fowler, Fiedler, Osinubi, & Robson, 2010). Much empirical research regarding the relation between acculturation and job satisfaction of expatriates working in the host countries has heen conducted (Au, Garey, Bermas, & Chan, 1998; Reyes & Cohen, 2013). Nevertheless, the research on Vietnamese workers in Japan is currently unavailable.

From the above observation, based on the case of Vietnamese students graduating from Ritsumeikan Asian Pacific University (APU) who are currently working in Japan, this research aims to examine the question "What is the relation between the work-related acculturation process of Vietnamese APU graduates and job satisfaction in their Japanese workplaces?" On the one hand, the research will focus on figuring out the features found in Vietnamese expatriates' behavioral plus

psychological changes and adaption toward the Japanese language, the Japanese management style and Japanese workplace manners. Additionally, this research will evaluate their job satisfaction level. The results from the two examinations will be linked together to figure out whether or not there is a relation between these two factors.

2. ACCULTURATION

Acculturation is defined as the interaction of two or more cultural groups leading to the cultural modification of either one or two parties (Berry, Kim, Minde & Mok, 1987; Pooyan, 1984). Specifically, work-related acculturation refers to the comfort degree of expatriates in a new environment with different work values, work manner, performance standards and so on in the host country. Expatriates who have adapted to their host cultures tend to be eager to absorb the host culture (Church, 1982). As a result, they tend to perform their work properly, leading to a better degree of job satisfaction (Black & Mendenhall, 1990; Naumann, 1993).

Through various empirical studies, there have been several acculturation models introduced to examine the acculturation process, such as the unidimensional and bi-dimensional model (Nguyen & von Eye, 2002; Berry, 1997). The unidimensional model, which is also called the assimilation model or bipolar model, presumes acculturation as a one-way process in which individuals move from one cultural identity to the other (Gordon, 1964). The unidimensional model is conceptualized as a cultural identity shift along a single continuum from adherence to original culture to adaptation to the host dominant culture. According to Nguyen and von Eye (2002), the unidimensional model is simple to apply yet can capture the basic acculturation process of expatriates.

3. JOB SATISFACTION

In general, job satisfaction is the degree to which an employee feels “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experience” (Locke, 1976, p. 1304). Job satisfaction is one of the most popular topics in management; however, studies on job satisfaction of expatriates, especially in relation to acculturation, are limited. Some studies assumed that less acculturated immigrants experience less job satisfaction. For example, Leong (2001), using this hypothesis, pointed out that Asian Americans with low acculturation suffer a low level of job satisfaction. By contrast, other research by Mace and Carr (2005) has shown that immigrants who are willing to adapt to host culture in New Zealand have higher levels of job satisfaction. Other studies by Au at al. (1998) and by Ea, Griffin, L’Eplattenier and Fitzpatrick (2008) also found that there is a positive correlation between acculturation and job satisfaction of Chinese and Filipino expatriates in New York and in the USA, respectively.

4. METHOD

4.1. Sample

In this study, participants were 41 APU Alumni from Vietnam, currently working in Japan. In order to strengthen the consistency and reliability of the collected data, the target participants were selected to all share the same background of being born and raised in Vietnam until finishing high school. Futhermore, they all have been working less than five years in Japan.

4.2. Instrument

In order to measure the level of acculturation and job satisfaction, a survey consisting of 10 statements assessing acculturation and 10 statements assessing job satisfaction was distributed to the participants. While the content of the statements are modified from the summary of instruments for measuring acculturation by Taras (2008), job satisfaction is measured by utilizing the short form of the Minnesota Satisfaction Questionnaire. All the statements were evaluated based on a five point Likert scale ranging horizontally from “strongly disagree” to “strongly agree”. All the scores are then added to produce a final number ranging from 10 to 50 for each variable. The validity and reliability of this instrument is shown by Weiss, Davis, England and Lofquiest (1967, as cited in Au et al., 1998).

5. RESULTS

The survey was distributed online to 55 Vietnamese APU graduates working in Japan. There were 41 people who completed the survey, which meets the initial target of participant number (see table 1).

Table 1
Demographic Characteristic of the Sample (N=41)

	n	%	Acculturation Average Score by group (Max. 50)
Gender			
Females	26	63.4	32.31
Males	15	36.6	34.60
Number of working years			
Less than 3 years	27	65.9	32.56
From 3 to 5 years	14	34.1	34.28

To evaluate how Vietnamese graduates acculturate to their workplaces and their job

satisfaction, the individual total scores for acculturation and job satisfaction are divided into 5 levels (see table 2). Ranging from 10 to 50 along the continuum scale, each level accounts for 8 units. The lowest level of acculturation is regarded as "almost un-acculturated" while the highest level represents being "fully acculturated". The level classification for job satisfaction is similar with the lowest being "very dissatisfied" and the highest being "fully satisfied". Based on this classification, the survey has shown that Vietnamese APU graduates only possess a moderate degree of acculturation to Japanese work-related culture with a mean score of 33.15. The score for job satisfaction is a little bit higher at 34.46, which is very close to the acculturation score and shows a high degree of satisfaction (see table 3).

Table 2

Classification of Acculturation levels and Job satisfaction levels with corresponding scores (ranging from 10 to 50)

$10 \leq a \leq 18$	$18 < a \leq 26$	$26 < a \leq 34$	$34 < a \leq 42$	$42 < a \leq 50$
Almost un-acculturated	Slightly acculturated	Moderately acculturated	Highly acculturated	Fully acculturated
Very dissatisfied	Slightly satisfied	Moderately Satisfied	Highly satisfied	Fully satisfied

Table 3

Statistics on Acculturation and Job satisfaction of the Vietnamese graduates working in Japan

	Mean ± StdDev	Range
Acculturation	**33.15 ± 5.53**	24 ~ 48
Job satisfaction	**34.46 ± 5.94**	20 ~ 46

Correlating the acculturation mean score with the corresponding job satisfaction mean score by group in the ascending order, we can see there is a quite clear positive correlation between these two variables. When people have a higher score for acculturation, moving from a slight acculturation level, to a moderate and then a high acculturation level, their corresponding job satisfaction scores also increase respectively (see table 4). This result has confirmed that acculturation and job satisfaction among Vietnamese graduates working in Japan are positively correlated; the more Vietnamese graduates accept and adhere to Japanese work-related culture, the more satisfied they will feel toward their jobs. However, it must be acknowledged that a small number of 41 partipants (4.88%) do not follow above trend. This will require further research.

Table 4

Correlation statistics between Acculturation and Job satisfaction of the Vietnamese graduates working in Japan

	N=41	**Acculturation**	**Job satisfaction**

	n	%	**mean score**	**mean score**
Almost un-acculturated	0	0	**0**	**0**
Slightly acculturated	7	17.07	**25.43**	**28.85**
Moderately acculturated	19	46.34	**31.37**	**34.37**
Highly acculturated	13	31.71	**38.00**	**37.92**
Fully acculturated	2	4.88	**45.50**	**32.50**

5. DISCUSSION

5.1. Factors that affect the acculturation process of the Vietnamese graduates

The uniqueness and extreme difference in language and cultural factors with other countries have made Japan an interesting host country in cultural adjustment studies. Therefore, the salient features in Japanese culture, such as collectivism, verticality, uncertainty avoidance and Japanese language, could be used to explain the moderate level in acculturation seen in the Vietnamese graduates working in Japan.

The high orientation toward collectivism of Japanese people is manifested by their group-oriented behavior and their significant obedience to group norms (Nakane, 1972; Caudill, 1973). Consequently, this leads to the transparent division between in-group members and out-group members, causing indifferent treatment or discrimination respectively to each kind of member (Napier & Tayler, 1995). For instance, Japanese people tend to offer foreigners the "red-carpet treatment by being polite on the surface but distinguishing them clearly as out-group members" (Ebuchi, 1991, as cited in Peltokorpi & Froese, 2009). This could be the reason why more than half of the Vietnamese graduates from the survey revealed an uncomfortable and conservative attitude toward having discussion or working in groups with their domestic colleagues. Furthermore, with the top-down orientation, decision making in Japanese workplaces is described as lengthy and "receiver-centered communication", which is another reason for anxiety and frustration among many expatriates (Peltokorpi, 2007). Following this observation, the Vietnamese graduates are also uncomfortable with the decision-making process in their Japanese companies. More than 80% of them expressed an uncomfortable feeling toward the decision-making procedure, with 37% of them even showing a strong disagreement with this lengthy decision-making in their organizations.

Throughout numerous empirical studies, another reason for expatriates to struggle in workplace adjustment comes from the high level of uncertainty avoidance found in Japanese companies (Peltokorpi, 2007). In Vietnamese culture, people have a very low sense of uncertainty avoidance (Hofstede, 2001). They are comfortable with breaking the rules and think the schedule should be flexible. This significant contrast between the two cultures could be one of the main obstacles for the Vietnamese to adapt themselves well to the Japanese workplaces. It is also pointed out that more than half of the Vietnamese graduates showed a low level of comfort with obeying the rules, policies or regulations in their Japanese organizations. What is more, the high-context culture of Japanese people is an additional hinderance for expatriates to work adjustment. The way Japanese people hesitate to express their ideas, especially different or opposite opinions, is often

misinterpreted by expatriates (Peltokorpi, 2006). Even though Vietnam is grouped as a high context culture like Japan (Hall, 1976), it seems to be not true for the new Vietnamese generation anymore. Especially for the Vietnamese students graduating from an international university such as APU, they seem to be more open-minded and more transparent in their communication style. From the survey, 85% of them admitted that they do not have the same way of thinking, or even have an extremely different way of thinking, as their Japanese co-workers. This could easily make them misunderstand their Japanese counterparts' thinking and intentions.

Last but not least, the Japanese language is one of the toughest challenges for expatriates to adapt themselves functionally to the workplace. It has been proved that Japanese language proficiency is a great tool for behaving and performing properly in Japanses workplaces (Peltokorpi, 2006). However, in the context of the Vietnamese graduates working in Japan, the Japanese language is not a big obstacle to their acculturation process. On the contrary, it is an important factor helping to raise their average acculturation score. From the survey, it was found that 93% of the Vietnamese graduates have a level of Japanese language ability from intermediate and above, and perform well linguistically in their workplaces.

5.2. Influences of acculturation on job satisfaction

With a mean score of 34.46 out of 50, the Vietnamese graduates are regarded as having a moderately high level of job satisfaction. When correlated with their level of acculturation, this level of job satisfaction among the Vietnamese graduates can be explained by several features of their cultural adjustment to Japanese organizations. Firstly, all of the Vietnamese graduates could be defined as self-initiated expatriates (SIEs), which defers for ones who make the decision to work abroad by themselves rather than being assigned to work abroad by their home companies (Peltokorpi & Froese, 2009). According to Peltokorpi and Froese (2009), SIEs are likely to have high motivation to tolerate and to cope with "behavioral differences during intercultural interactions". In the case of the Vietnamese graduates, this observation might be strongly applicable. Since they worked really hard during the job-hunting period to seek out positions as foreign workers in a Japanese company, where they would be a minority, even though they would face many difficulties in work-related adjustment, the Vietnamese graduates might still hold a strong motivation to acculturate. This assumption is reflected in their strong sense of wanting to belong to the Japanese community. From the survey, 88% of them showed from a fair to a high satisfaction with their chances to be someone in the community at their workplaces. In other words, even though the Vietnamese graduates have to struggle with many different cultural values at work, in order to become a part of their Japanese organizations, the more they try to adjust themselves and acculturate, the more satisfied they would be.

Besides the positive effects, negative effects of acculturation on job satisfaction should not be ignored. In a society with extreme uncertainty avoidance like Japan, critics and innovation are not welcomed. In the business environment, Japanese people are also conservative toward new ideas or changes, which makes many foreign workers frustrated (Peltokorpi, 2007). In the case of

the Vietnamese graduates, majority of them also have low satisfaction due to this feature. 61% of the survey participants admitted that they have less freedom to use their own judgments in their work, of which 20% of them are extremely pessimistic about this fact. In addition, with the significant collectivist feature, many expatriates in Japan might have to reluctantly conform to the majority's code of action or the company's rules. The survey data supports this pattern, with 63.4% of the Vietnamese expatriates being fairly disappointed because they have to do things that go against their conscience. As long as it is stated as the company's rule, policy or regulation, they must obey no matter what, even though it is against their belief. As a result, job satisfaction among the Vietnamese graduates might be negatively affected by these phenomena.

6. LIMITATION AND FUTHER RESEARCH

This research has highlighted some major characteristics of the acculturation process among the Vietnamese graduates working in Japan and its influences on their job satisfaction. Nevertheless, this research acknowledges some limitations. Firstly, regarding the reliability of the research, the sample size is considered to be small. In order to reach a more concrete conclusion for the general population of Vietnamese expatriates, much wider nationwide research in Japan is recommended. Secondly, the results from the survey have revealed the potential for job satisfaction to influence acculturation in an adverse way. Through the survey, Vietnamese graduates showed a high degree of satisfaction toward working conditions and salary. These factors are anticipated to be one of the significant stimuli for their acculturation process, which needs further researches.

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Contemporary Planning Practice need to be theorized?

Lakshika Meetiyagoda
Dept. of Town & Country Planning,
University of Moratuwa, Sri Lanka

Susantha Amarawickrama
Dept. of Town & Country Planning,
University of Moratuwa, Sri Lanka

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ABSTRACT

Some theorists show that the theories on contemporary planning tradition (communicative planning) spotlight only on planner. They stress the importance of deriving planning theory based on the planning contexts and outcomes as it is helpful to produce a more pragmatic planning theory. Although there are practice based research attempts at planning domain, this paper aims to further understand planning theory in the light of planner's role, the context and the outcomes of planning practice. To achieve this, it uses in-depth interviews and case based research methods. Resettlement projects from Sri Lanka and Hong Kong contexts have been selected as case studies to compare and contrast the context based situations. The research findings indicate that although the ultimate aim of planning projects is similar, planners' role can be changed in the sphere of the context and people's values and it may reflect in the project outcomes.

Keywords: Planner's role, Outcomes, Planning context

1 INTRODUCTION

According to Campbell & Fainstein (2003) 'Planning Theory is often the area where the field of planning reassesses itself'. Thus, literature related to planning theories mentions the planner's role, planning process, planning goals and extent of involvement of people for the planning decision making. Accordingly, it has emerged and evolve traditions such as synoptic planning theory, incrementalism, advocacy planning theory, radical planning theory, equity theory and so forth (Sager, 2009). The communicative theory is accepted as contemporary tradition, which contains some deficiencies. Fainstein (2000) mentions, 'as the communicative theorists make the role of the planner the central element of discussion, both the context in which planners work and the outcome of planning fade from view'. To examine the validity of that argument and to strengthen the contemporary theory in the light of practice, this research explores the interrelation of the planner's role, context and the outcomes of planning practice.

The two case studies dealt here are similar in terms of task and located in different contexts. They are selected from Hong Kong and Sri Lanka based on low and middle income community resettlement to provide better housing**.** The research methods are centered on interviews and comparative case studies.

Both planners' and people's views were taken into consideration to examine the planning process and the role of the planners as well as to identify and people's interest and their

perception about the project's outcome. Consequently, we conclude that the planners' role in practice will be determined context and it impacts on project outcomes.

2 PLANNING THEORIES, PRACTICES AND PLANNER'S ROLE

John Forester's writings emphasise the role of planning practice which lead to the formation of the theory (Forester, 1999). And Watson (2002) mentions the planning practice does not necessarily produce generalized ideologies, but those activities bridge the gap between theory and practice. This section discuss the classification of planning traditions, which includes rational comprehensive planning, incremental planning, advocacy planning, radical planning and communicative action planning. It is vital to identify the shifts in planning approaches and the subsequent definition of planner's role in the light of the contemporary ideologies to understand the current dilemma.

In the context of rational comprehensive theory, planning profession assumes a universal public interest exists and this public interest is manifested through reason or rationality. Therefore, Planner is a rational decision maker who mostly worked with statistical analysis. Lindblom (1959) introduces incremental planning which states that it should not be carried out analysis based on predetermined goals, but strategic analysis needs to be done to simplify the complex policy problems. He stresses the requirement of the bargaining process between free market and democratic political economy to understand the policy decision and therefore, the planner's role is identified that of a coordinator. Davidoff (1965) is the pioneer of the advocacy planning movement and called for distribution of planning services in low-income, minority neighborhoods through a cadre of advocate planners. The advocacy plan proposed that planners represent the public interest by speaking for those who do not typically have a voice in planning. Therefore, the advocate planners are famous among not only social groups, but also among environmental groups, and trade associations. Radical approaches to planning to show the dark side of advocacy planning practice, therefore the literature contains more critique rather than a road map. But, it impacts on progressive experimentation based planning movement with the concepts of equality, participation and legitimacy and the planner is identified as a change agent (Hudson, *et al* 1979).

A contemporary tradition of planning theory is communicative action planning. As Fainstein (2000) explains, the object of analysis in the legal theory is about the relationship between the legal system and society and medical theories' concern is the human body, communicative theory spotlight on the planner. The role of the planner is perceived as a facilitator for discussions and the mediator to emphasis participation (Campbell and Marshall, 1999). Fainstein (2000) reinterprets the Habermas (1990) ideas and according to this theory planner's primary function is to act as an experiential learner than a technocratic leader. Thus, planner mostly provides information to participants and convinces people to agree on particular planning content. Further, Fainstein (2000) pinpoints the deficiencies of this theory when he remarks that the communicative theorists make the role of the planner the central element of discussion, as it might lead to diminish the importance of the context in which planner's work and the outcome of planning. She interprets it as identification of subject without the object and proves that communicative planning theory has neglected the issue of universalism by developing a general procedural ethic without substantive content.

Consequently, there is a need of extensive practice based research from different contexts to refine the contemporary planning theory.

3 METHOD OF STUDY

Watson (2002) suggests the two possible methods to understand what planners do in practice. One is the more ethnographic approach based on in-depth interviews with individual planners. The second one places the understanding within the context of fully elaborated case studies. Hence, this study adopts in-depth interviews of two senior planners who are involved in low or middle income resettlement projects, namely *Sahasrapura* Resettlement Project in Sri Lanka and Kwun Lung Lau Housing Scheme in Hong Kong. Although the case studies are not quite comprehensive, data collected by means of questionnaires from 150 respondents of two resettlement projects. It would help to comprehend and compare the nature of the project and its outcome under eight indicators identified in the literature review.

Figure 1: Sahaspura Housing Scheme, Sri Lanka

Figure 2: Kuwn Lung Lau, Hong Kong

4 ANALYSIS AND FINDINGS

4.1 Sri Lankan Planner's Practice

Sahaspura is the first high rise solution for the low income housing problem in the country. Therefore, the Executive Director of Planning & Marketing for the Sahaspura project is the selected interviewer. The Planner stressed that the main principle he follows is sustainability. He outlined some specific values related to the project in a newspaper article,

> '… release the underutilized lands for more profit generating activities, make an equitable society by providing due recognition to people, provide educational and employment opportunities and make gender equity by allowing women to participate in decision making…' (Mirihagalle, Daily News, 2007).

In some instances, he used a rational approach to justify the highest and best use of land utilization concept, but, the interview reveals that, he wanted to advocate people to establish the equity. The vision of the project was to make a world class city which sounds a more political statement. However, its the goal aimed to 'elevate urban poor into the mainstream'; was more a people oriented statement and its objectives were combinations of both ideologies, namely, 'deliver high density housing for slum dwellers' and 'release prime lands liberated through re-settlement for alternative development'.

The discussion proceeds to reveal that the planning process is more collaborative than scientific. The project initiated with an enumeration survey to gather socio-physical information of low income settlements in the city of Colombo. The data tabulation, preparation of maps, measure the land area covered by low income settlements and their densities also has been undertaken to compile the plan with more rational outlook.

The planner has worked closely with people in the detail planning phase to design the project. Even the contract was awarded to the tenderer who has secured the highest number of votes from beneficiary households. Not only during the planning and design stage, but also during the construction stage social marketing workshops had carried out a survey (mobilization) among the beneficiary households to educate about the opportunities. Finally, Management Corporation has been established to be in charge of for maintenance and to provide security to the housing scheme. He mentioned that the decisions were not taken individually. A panel consisting of a planner, a lawyer, an administrator and an independent community leader was the setup to prevent troubleshooting during the phase of implementation. Getting the involvement of the community leader is a wise decision as it reflects the democracy, participation and transparency.

As mentioned elsewhere, social equity was a major principle of this planning attempt. Therefore, a few special housing units were constructed on the ground floor for extremely disabled people and ramps were built in main accesses and accesses to corridors. Eight lifts are provided and special kind of floor tactile guide paths were laid.

However, planner accepts the fact that the main role was played by professionals than by people. He said 'even though the role of professionals is relatively strong in high rise housing, beneficiary households in this project were given maximum opportunities to get involved in the entire process'.

4.2 Hong Kong Planner's Practice

The Hong Kong Planning system counts a long term experience in the sphere of high-rise housing development. It was a challenging task for policy makers in the late 1950s to get themselves adopt to this policy decision, but, by now there are no negative ideologies about living high. The government's vision is "providing adequate and affordable housing for each and every family in Hong Kong public rental housing (PRH) for the grass roots the Home Ownership Scheme (HOS) and other forms of subsidized housing for the lower to middle-income group and young and first-time home buyers; a stable private property market with priority accorded to meeting the housing needs of Hong Kong people to facilitate those who can afford the home ownership". The planner who got involved in the selected case study tries to adopt this vision provided by the government, but his argument is "PRH is not the way of efficient use of public resources because statistics suggest that subsidies are provided to more households than necessary. But HOS can play a significant role in provisioning housing for the middle and lower middle income groups and in stabilizing the market". But both these views reveal the scientific and logical justifications for decision making. Nevertheless, Hong Kong Housing Society, which is the organization responsible for the construction of Kwun Lung Lau, started as a voluntary community organization to help those in need of housing in the late 1940s as a non-profit making organization.

The housing development process was also a systematic and more rigid statutory process. The requirements of housing were assessed with quantitative evaluations and decided the owners and delivery also decided on a system based on income and asset limit. As they have not

decided the prospective occupants before constructing the housing scheme, public consultancy mechanism remained weak. Though there are provisions for the amendments according to the suggestions of the design committee, but values of the people's were overlooked. However, sophisticated data bases, maps and all the other required sources were used for the analysis. Moreover, the planner mentioned that Planning and Engineering Feasibility Study was targeted to gather people's views and allow any stakeholder to articulate their views. But, he accepted that there is no provisions for multicultural needs or any other intangible and sensitive issues as those are not matters pertaining to the housing provision. But, they tried their best to provide all necessary infrastructure, including the disability needs and priority has been given only to elderly communities. Consequently, it has been highlighted that the role of planners in Hong Kong, mainly relied mainly on rational comprehensive planning theory, while showing some concern on equity and differently abled communities.

5 DISCUSSION

As per the in-depth interviews, it depicts that planners involved in the two projects do not rigidly follow one tradition of planning, but depend on the contexts and people's demands, thus their the roles differ from one another. However, Sri Lankan planner prefers the combined approach of advocacy planning and communicative planning and Hong Kong planner has worked on a mix of rational comprehensive planning and equity concepts due to top down nature of planning. Yet, according to the questionnaire analysis about 83% of Kwun Lung Lau residents and 85% of Sahaspura residents are satisfied with their housing schemes. It reveals the fact that both housing projects are successful, though the the planners' roles are different. This section is denoted to discuss specifically what those changes are and also the reason behind such a difference.

Table 1 Summery of People's Perception

Indicator	**Sahaspura, Sri Lanka**	**Kwun Lung Lau, Hong Kong**
Tenure Security	Freehold ownership 86%	Leasehold 100%
Reconstruction of Economy	Income – Increase 37% Decrease 39% Not changed 24%	20% 80%
Community Oriented and Participatory	Participation for planning Participated all stages 60%	Not participated for public participation 84%
Reconstruction of Community	Association with neighbours 60% Members of Community Based Organizations 89%	Not associate with neighbours 58%
Self -Selection	Satisfaction on the location of the flat 84%	83%

	Satisfaction of the size of the flat 25%	75%
Attitude of Community Members to New Location	Satisfaction on the design of the scheme 31%	92%
Convenience of the New Location	Access to public Transportation 70%	100%
Safety and Privacy	89%	100%
Overall satisfaction	85%	83%

Source: Indicators are derived based on Fenster, 1993, Yuen, 2006; Cernea, & McDowell (Eds.). 2000

In Sri Lanka, although, government is involved in the provision of housing as a welfare measure, it is a challenge to compromise with beneficiary communities as they compare the situation with the rest of their countrymen who are enjoying the better housing and infrastructure. In that background, planning without proper public consultation could be a nightmare. Therefore, there is no any rigid planning process for housing development, and planners to envisage a system incorporating the participatory process. As a result, 60% of respondents revealed that they have participated in all four stages. As 84% of Kwun Lung Lau residents have no idea about their participation in planning and decision making, and it has no impact on success of the project or people's satisfaction.

Further, the basic requirement of Sri Lankan from the resettlement is a property ownership (86% became entitled to freehold ownership due to this project). On the other hand, Hong Kong is one of a most densely populated city where the land ownership is vested with the government. The government does have a certain autonomy (Althusser, 1968, a,b) and its involvement in housing provision is an advantage for Hong Kong's development as if the laissez faire system would exist, some people might have no place to live due to high competition and income inequality. Thus, people are aware of these constraints and the government's power over the mode of operation is acceptable to the community.

According to the research findings people have indicated less priority (58% not satisfied with social relationships) on social values within the neighbourhood in Hong Kong. On the other hand, Sri Lankan community refuses the resettlement if it causes breakdown of social relationship. Thus, the challenge for the planner is to design the resettlement ensuring that no disruption occurs in their social relationships. That aspect is somewhat fulfilled in Sahaspura as more than 80% of people are members of CBOs and sharing the relationships by attending different events.

Considering the Hong Kong people's positive reaction of high rise living and its design quality (92% satisfied), this project is in conformity with their understanding and level of adaptation to the circumstances. Although the situation is more or less same in Sri Lanka, people are inclined to reject the design aspect based on both interior and exterior quality of the housing scheme, as the community is more concerned to maintain uniqueness in terms of design (69% not satisfied). So, public consultation is a compulsory task from the initial stages of planning.

6 CONCLUSION

Although, there are several theoretical expositions that to elaborate the planning tasks and planners' role, in reality planning is a complex exercise involving inherent, context specific structure and people's values. According to scholars, this complexity has not well elaborated in communicative planning theory as it mostly explains the role of planner than elucidates the pragmatic content based on the context and outcomes of particular planning practice. The findings highlight the flexibility of planner's role to cater the people's values and context specific socio-political environs, and how that flexibility leads to make successful project outcomes. Further, it is precisely a mix of diverse planning traditions designated to achieve the project outcome. Therefore, it proves the importance of interpreting the planning practice based on planner's role, context and outcomes. Further pragmatic research is desirable in future to learn lessons from cases that would contribute to policy debates and strengthen the contemporary planning theories In ths sense, such interrelated research attempts may lead to minimise the gap between theory and practice.

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Development of Climate Model Organization based on sundanese moral values

Ani Setiani
Lecturer of Universitas Pasundan Bandung-Indonesia
anisetianim@gmail.com

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Abstract

The qualitative research with the title Development of climate model organization based on sundanese moral value in the Bandung City was formed the background by the condition increasingly faded him the values of the Sundanese culture. The aim of this research was formulated by the development of climate model organization based on sundanese moral values took the form of training equipment that could fill the problem faded him the values sundanese in the tertiary institution environment in Bandung city.

This research including in the development Research (Research and Development) that was served descriptively. This research was done in four stages, that is: (1) the documentary Study. (2) Develop istrumen the research was based on the analysis of the requirement (need assesment) to development the climate of the based organization of the sundanese value that could satisfy the local requirement for the tertiary institution in Bandung City, (3) carried out the netting of the data and information was based on the instrument that was developed through the study of the bibliography, the poll, the questionnaire, the interview and Focus Group Discussion (FGD) from various related sides, 4) carried out the processing, the interpretation and discussions as well as the pulling of the conclusion, the suggestion and the recommendation on the findings that were successful in could. Results of the research show that: 1) the implementation of the sundanese values was poured in the form of the regional regulation no.9 in 2012 and was had follow-up in the Mayors regulation that at this time still in the process of the finishing, nevertheless was based on information from various sides in the FGD forum, the available policy both the policy that was dismissed by the government ate Bandung city and the West Javanese Province. 2) Policies developed regarding sundanese value in the city are more likely to socialize. In fact if you look at the problems faced by the appropriate organizational climate with the problems of sundanese values in the city is organizational climate with local wisdom form of social reconstruction, namely organizational climate that emphasizes the importance of the development of the individual as a person and as a member of the community who preserve the sundanese value 3) Implementation value in colleges around the city of Bandung by the city government in order to overcome the problem of waning sundanese values are applied in every college in the city is still not optimal.

Keyword: The Climate Of The Organization, The Values Of Sundanese Culture

1. Introduction

In the middle of the globalization flow, the development and the change that happened in social life, had a nation, and were national in Indonesia that was not free from the influence of the global change, the development of science, technology, art, and the culture. The feeling, the desire and the work of human were the inheritance that formed the cultural system that always developed and was developed through the dynamics of the life of human. UNESCO programs in maintaining the culture Inheritance Be very important to give change that was basic towards the perception and the community's global attitude towards the culture and the cultural inheritance. Also very important in promoting and protecting the diversity of the culture that could help created the peaceful world.

Therefore in carrying out his activity, human that worked in the organization must maintain the culture that was received environment of institution. The tertiary institution must create the climate of the based organisation his regional culture, in creating the climate of this organisation was needed by social relations that were harmonious between the fellow worker and his environment. Social relations included good communication vertical and horizontal, the co-operation between the workers and culture around that was mentioned with his local wisdom, carried out the based activities the values of culture that created the happiness enviroment of the tertiary institution. Many programs were launched by the regional government to strengthen local culture. Starting from when being applied by him the program on Wednesday spoke Sunda or was known on Wednesday Nyunda, to the use of typical Sundanese clothes. Moreover the Body of The community's conference Sunda West Java asked the Service of education West Java to increase the local cargo curriculum the Sundanese language to mulok the Sundanese culture. This was reinforced with the condition increasingly faded him the Sundanese culture. (Kompasiana).

The culture critic, Hawe Setiawan explained, generally had 3 cultural groups among them the culture that still was remaining or resibioculture, the culture that still was dominant or dominant culture (lived and influenced many circles), and the culture that was growing or energizing culture. This was information that must be strengthened especially on environment the organization, that was reinforced by the available climate. The climate that was pleasant for the officials (Davis & Newstrom, 2001, hlm. 24) was if they did something that was useful and caused the feeling to be valuable, got responsibility and the opportunity of being successful, listen to and was needed as the valuable person.

Has been the obligation in each scope of the organization in the government's environment or Bandung city private enterprise created the climate of the organzsation thatheld the sundanese values. Therefore, to be created relations that were harmonious between the community and the tertiary institution was needed by the co-operation, where the community accepted the benefit of the presence of

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the tertiary institution in his area to maintain based local wisdom the values of Sundanese Culture.

2. Climate of Organitation

Sub Organization the system that was most important in an organization was the human sub-system because according to Muhammad (2005: 39) human as the organisation member was to be the core of the organisation. The human factor must in the organization receive attention and could not be ignored. This was caused was or not successful the organization achieved the aim and maintained his existence more often was determined by his human factor. Therefore in carrying out his activity, human that worked in this organization necessary disubstitusi with various stimuli and facilities that could increase the motivation and his work passion.

The conducive climate could encourage and maintain the motivation of the officials. Therefore the climate of the organization must be created in such a way as the official felt comfortable in carrying out the task of his work. The climate of the conducive organization will push the official to more high-achieving optimally in accordance with the interest and his capacity.

Owens (in Burhanuddin, 2002, page 91), said that the climate of the organization showed in: "*to perceptions of persons in the organization that reflect those norms, assumptions, and beliefs".* Whereas according to Randy at.all. (2002, page 132-133) suggested that, *"The climate within organization Is an important factor in human resource development success. Ss. If the climate Is the note conductive to human resource development, designing and implementing a Will's program be difficult*". (the climate in the organisation was the important factor in the success of the development of human resources. He. If the climate was not conducive for the development of human resources, the plan and the implementation of the program will become was difficult).

Stinger (in wirawan, 2007) defined that the climate of the organization as the collection and the pattern of the decisive environment the motivation emergence as well as focussed on perceptions that made sense or could be considered, so as to have the direct influence on the achievement of the organization member.
From the three understandings on the climate of the organization could be interpreted as a series of characteristic of the organization that was felt and was influential towards the achievement of the employee. The understanding above contained the meaning that:

a. The climate of the organization was a collection characteristics that explained about this organization. Because the level of from each characteristic that was owned by each different organization, then the climate of the organization that one with the climate of the other organization became different.
b. The climate of the organization was the internal atmosphere in an organisation that was felt by each individual who worked in this organization. Because of

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this when the climate of his organization was conducive, then the achievement of the employee will increase.

c. The climate of the organization was the dynamic concept (the system was open). Because of this the climate of the organization will only take place for the certain periode.

The climate of the organization if being connected with teachers in co-operating carried out the condition limgkungan the organization of the school where teachers carried out his task. Hoy & Miskel (2001, hlm. 430) added that the work environment that was not more supportive like the physical environment the work and relations were in disharmony between someone in an other manner took part in causing the achievement to be bad.

Hoy & Miskel (2001, hlm. 431), suggested that: "the Climate of the organisation was the quality of the environment that took place relatively that was experienced by employee efect his attitudes and that be based on to the interests together about the attitude in the institution. Nstitusi. A climate emerged through the interaction from the member and the exchange of the feeling around them the climate of the organization was the indentity.

a) The Climate of oriented Organization the Achievement

The climate of the oriented organization the Achievement was the environment in the organization that stressed the achievement of the teacher and affected the teacher in the implementation of his task. As for his dimensions covered:

a. The structure of the task
b. The production of the Decision
c. The pressure on the achievement
d. The acknowledgment and feedback
e. The exercise and the Development

The climate that was pleasant for the officials (Davis & Newstrom, 2005, hlm. 24) was if they did something that was useful and caused the feeling to be valuable, got responsibility and the opportunity of being successful, listen to and was needed as the valuable person. The existence of the positive climate, that was pleasant could bring the positive influence in the achievement someone. The climate that was oriented to human will produce the achievement and higher job satisfaction. The officials felt that the organization really paid attention to the requirement and their problem, when which climate was useful for the requirement for the individual (for example, paid attention to the interests of the worker and was oriented towards the achievement), then could hope for the behaviour to the side of the high aim. On the other hand, when the climate that emerged was compatible with the aim, the requirement and the personal motivation, the achievement and satisfaction could decrease.

b. The Dimensions Climate of Organization

Stringer (in wirawan, 2007) mentioned that the characteristics or the dimension of the climate of the organization could influence the motivation of the

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organization member to behave certain. He also said six dimensions that were needed, that is:

1. *The structure*. The structure reflected the feeling that the employee was organised well and had the definition that was clear concerning the role and their responsibility. Covered the position of the employee in the company.
2. *The standards*. Measured the feeling of the pressure of improving the achievement and the level of pride that was owned by the employee in carrying out his work well. Covered the condition for the work that was experienced by the employee in the company.
3. *Responsibility*. Reflected the feeling of the employee that they became the management himself and had not asked for the opinion concerning his decision from the other person. Other. Covered autonomy in completing the work.
4. *The acknowledgment*. The feeling of the employee was given by the repayment that was appropriate after completing his work well. Covered the repayment or the pay that received the employee after completing the work.
5. *The support*. Reflected the feeling of the employee concerning the belief and supported each other that were current dikelompok the work. Covered relations with the other workmate.
6. *The commitment*. Reflected the feeling of pride and the commitment as the organisation member. Covered the understanding of the employee concerning the aim that wanted to be achieved by the company.

When being connected with the problem of the research, the Hoy opinion and Miskel more gave hope for the development of the parameter about the climate of the organisation to the employee diperusahaan the Bandung City that was based thought-nilia Sundanese culture.

b. The Moral value of Sundanese Culture

In undergoing his life the Sundanese ethnic group based itself on the human love that akhlakul karimah that is humankind that always based on principles in keseimbagan between the religion, social and economics. Kartawinata, (1995:13) said that the balance formed the living teaching like:

1. The just attitude towards the peer
2. The balance between the right and the obligation
3. Honored the person's other rights
4. Like to give help so that the person who was helped also to be able to be independent
5. Work hard
6. Appreciated the other person

In the formulation results of workshop tranformation the Sundanese value of the culture (2001) was mentioned that the Sundanese value of the culture was the

values that were owned by human and community Sunda chance him so as to cause the determination to human and the Sundanese community to bring about him. Inside was contained by the concept of the foundation about the life that was formed by human and the Sundanese community. Yus Rusyana (2001) systematically depicted like the value gemah, ripah, repeh, rapih that tried to be realised by the West Javanese government.

The other value like proper, merenah and tumaninah also believed by chance him and could take part in forming the life that was wanted. In other words that the life community Sunda that was wanted could be formed by investing the values that were owned and believed in by human and the Sundanese community personally.

a. The values of Sundanese Culture.

Each kind of normal human will have the awareness as the valuable creature. This awareness was proven with efforts to be able to live with better than the situation beforehand. Human will need the value to lead the movement, the step and his feeling. According to the principle of the public, the good value was all the matters that gave the contribution towards the opening and the progress of the life of human of the capacities, where as that was regarded as negative was all the matters that killed the life and paralysed human creativity. In Encyclopedia Britanica, was stated that value Is a determination or quality of an object which involves any sort or appriciation or inters. Rs. (Frondizi, 2001: 8). 8). Saw reality that the Indonesian nation was the plural nation then will be seen also by the existence of various ethnic groups in Indonesia. Each ethnic group that afterwards had the typical characteristics of different culture- the difference. The Sundanese ethnic group was one of the available ethnic groups in Java. As one of the ethnic groups in Indonesia, the Sundanese ethnic group had caracteristic that distinguished him from the other ethnic group. The uniqueness caracteristic this Sundanese ethnic group was reflected from culture that was owned by them good from the aspect of the religion, the livelihood, art et cetera. Gotten by the values from each kind of his culture that continued in held and was developed by the following generation. Applied the values of Sundanese culture was an obligation so that his conservation.

b. Metodologi

This research including in the development Research (Research and Development) that will be served descriptively. This research was done in two stages, that is: First, carried out the documentary study towards various policies of being related to the concept, the contents of the development, and other matters that were related to the implementation of the development of the climate of the based organization of the sundanese values in the Bandung city. Secondly, developed the instrument of the research and his implementation. The development activity of the instrument was preceeded with the compilation of the instrument spoke of the research that was based on the analysis of the requirement (need assesment) to each sample of the research, afterwards clarified him in the form of the instrument that was compiled in detail and comprehensive for all the objects that will be taken by the source of the data and his information to

development the climate of the based organization of the sundanese values that could satisfy the local requirement for the Bandung City. The implementation of the use of the instrument was against all the informants carried out through the poll, the questionnaire, the interview and discussions (through the activity of Focus Group Discussion-FGD). Thirdly, carried out the netting of the data and information was based on the instrument that was developed good through the study of the bibliography (the documentary study), observation, the poll, the questionnaire, the interview and Focus Group Discussion (FGD) from various related sides. Afterwards carried out the processing and the interpretation of the data produced by the implementation of the instrument of the research. Choose, sorted and processed the data produced by the research in the form of tables was based on various categories afterwards discussed him by paying attention to the concept and the theory as well as the real condition that happened in the field. Fourthly, studied each result.

4. Conclusion

based on results of the analysis of the data and discussions that were raised before, then results of this research could be concluded by matters as follows: First, the implementation of the sundanese values was poured in the form of the regional regulation no. 9 in 2012 and was had follow up in the Mayors regulation Bandung that at this time still in the process of the finishing. Where this regulation must be implementation in each agency and the company in Bandung city. Never the less was based on information from many side in the FGD forum, the available policy both the policy that was dismissed by the government of the Bandung city and the West Javanese Province was not yet supported by the clear policy. The implementation of a policy ideally also was followed by a series of other policy like the existence of the implementation guide or the technical guidance of the implementation, activity monitoring and the supervision as well as the instrument of his evaluation. That has been carried out just to the socialisation, while the process of monitoring and the supervision were not yet carried out. This condition made the lecturers, the official as well as the student in the field still the difficulty in implementation the sundanese values in Bandung city. Secondly, the development of the climate of the based organisation of the sundanese values better be developed with the aim and the base filsofis that was clear. The policy that was developed concerning the sundanese values in Bandung city more tended to the socialisation. In fact if seeing the problem that was dealt with then the climate of the organization that in accordance with the problem of the sundanese values the Bandung city was the climate of the organization. Therefore, the tertiary institution was an organisation that was present in the middle of the community, that each one of his activities was hoped for held and conserved the sundanese values . So, the lecturers, the official and the student received the emphasis in every activity. This did not mean to ignore essence from the available aim in each tertiary institution.

Thirdly, the implementation of the sundanese values in the tertiary institution around Bandung city by the government of t Bandung city on the occasion of to overcome the problem faded him the sundanese values that was applied by each

agency and the tertiary institution in Bandung city still was not yet optimal. The implementation conserved the sundanese values this not yet concerning the target. Because, not all the tertiary institutions or the agency gaze at implementation the sundanese values in the tertiary institution not something that was important, of only an addition and did not become the aim of the core. The tertiary institution still could not also coordinate the implementation of the sundanese values in the climate of the organization by involving various stakeholders both internal and external. The success of the implementation of the sundanese values in a tertiary institution was supported by various aspects in the activity in the tertiary institution, the policy, headed by, the infrastructure, the operational standard of the tertiary institution, the employee and stake holders played an important role in the achievement of the aim of the climate creation of the based organization the sundanese values .

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THE DEVELOPMENT OF DIMENSIONS OF ORGANIZATIONAL CULTURE

Isniar Budiarti
A Lecturer of Faculty of Economics, Universitas Komputer Indonesia, Bandung - Indonesia
A Doctoral Student of Management, Universitas Padjadjaran Bandung - Indonesia
Isniar_b@yahoo.com
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Abstract

The paper undertakes a development of dimension concepts of organizational culture. It begins with a comprehensive review of those concepts close parallel with research and writings published on academic journals purporting to be indexed issued from 2003 to 2013, reporting innovative constructs of dimensions of organizational culture. The issue then focuses on those concepts that derive particular dimensions. An analysis of this organizational culture is measured using identification of its dimensions. Added to this is the approach applied in this extensive literature review, showing comparative dimension concepts of organizational culture from ten scientists' ideas that have already been examined in a comprehensive research. The analysis yields the implication that dimensions of organizational culture are concerned primarily with internal organization to form an innovative construct of dimensions of organizational culture. The construct is argued to assist organizational management to attain competitive advantage. Following the claim, this innovative construct of organizational culture is proposed to be an original contribution of the paper.

Keywords: Organizational Culture, Dimension, Management, and Constructs

I. INTRODUCTION

The notion of culture has been important in the study of anthropology for the past decade. Equally, it has attracted a great deal of attention for the growing issue on organizational behaviour. In spite of disagreement over some elements of definition and measurement, culture appears to be a main dimension to understand the concept of organizational behaviour (**Hofstede** 1986). **Schein** (1984) examines that numerous latest studies seem to argue organizational culture as a key to achieve competitive advantage. In other words, the organizational culture is concerned with organizational performance.

Understanding a culture with its values and perceptions comprehensively, established in a particular group, seems to require understanding basic assumptions that lead to the way in which people unconsciously perceive, think and feel on something. These assumptions may be a natural reaction learned from espoused values. Since the values derive behaviour and behaviour become a prerequisite to solution, they have been transformed into basic assumptions on how something is originally seen. In fact, when the basic assumptions have been adapted naturally, consciousness is denied. Similarly, the difference between assumptions from values is the fact whether those values are arguable. Had they been taken for granted, the values is called assumptions. However, the term of values seems to be more acceptable when they may be still arguable (**Schein** 1991).

Concerning organizational culture, there are some valuable theories widely adapted by theorists and practitioners. The theory proposed by **Kluckhon-Strodtbeck** (in **Robbins** 1996), as a highlighted, describes six dimensions of basic culture; each provides distinctive variations for every culture. The first dimension illustrates the relationship belonging to the environment that shows domination over environment, harmony with environment and dominated by environment. The second dimension determines time as an orientation; that involves past, present and future. The last dimension is designed to clarify a nature or basic characteristics of human beings. The characteristics demonstrate human values of being good, bad or in between.

II. LITERATURE REVIEW

Numerous researchers have proposed various definition of organizational culture. **Robbins** (1996), in one hand, has defined organizational culture as "shared values among membership in a group; the values conceptualized as a system of collaboration notion." On the other hand, **Schein** (1991) supports to the concept on how culture is developed, managed and even changed if the adaptation is necessary to maintain eligibility of an organization. As a result, he has developed a widely accepted theory that covers every dynamic force influencing on a developed and changeable culture,

> *"a pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration, and that have worked well enough to be considered valid, and therefore, to perceive, think, and feel in relation to those problems.*

Furthermore, **Cushway** and **Lodge** (GE: 2000) opined that organizational culture is the system of organizational values which effect the behaviours of members of the organization and the way in which such a work is performed. From the various definitions, conclusion drawn for the study is that organizational culture describes the system of organizational values that is shared among membership in a group and effects the behaviours of members. Moreover, organizational culture is the system believed and developed by the organization to guide its members' behaviours (Wood, Wallace, Zeffane, Schermerhorn, Hunt, Osborn, 2001:391).

Concerning to the levels of basic assumptions, **Schein** describes seven basic assumptions of organizational culture to measure the organizational values. He developed shared assumptions as followed:

1. ***Organization/Environment relations***. The issue focuses on the nature harmony; the linkage of beings, nature and environment.
2. ***The nature of reality and truth***. This aspect relates to members' perspectives on rules of linguistics and behaviours determining reality empirically, facts vs. opinion. In addition, morals and pragmatism are considered to validate truth whether it is discovered or invented.
3. ***The nature of human nature***. Human nature involves perspectives on human in nature, along with attributes called intrinsic or peak.
4. ***The nature of human activity***. This nature illustrates the acceptable way in which humans act in relation to their environment. They promote the accepted values derived from basic assumptions on reality, environment and human nature, whether they should be active, passive, self-improved or fatalistic.
5. ***The nature of human relationships***. It is concerned with the acceptable way in which humans interact to delegate a social power.
6. ***The nature of time***. Time illustrates a fundamental symbol to show orderliness of social life. It respects a perspective of members on the time orientation.
7. ***The nature of space***. Space relates to the way in which members of organization perceive the concept of space. It may cover distance, placement, and position.

Not surprisingly, some characteristics of organizational culture are highly important to the dimension. Luthan (1998) mentions those characteristics as,

1. Rules of behaviour. They are identified as language, terminology and a ritual generally used by members of organization.
2. Norm. Standardized behaviours guide members of organization to behave. In society, they are recognized as religious values, moral values, social norm, and normative rules of ethics etc.
3. Dominant values. They are main values that are favourable to be believed and accepted by members of organization, such as the high quality of product, the lowest level of absence, the high level of productivity and efficiency and that of discipline.
4. Philosophy. The philosophy is defined as policies and goals inferring the interest of employees and customers. The example of philosophy may be "Your satisfaction is our achievement."
5. Rules. They are strict limitations controlled by organization to manage its members. In this case, the new comers ought to learn these rules to adapt in new environment.
6. Organizational climate (also called corporate climate). It is a set of "properties" of the work environment, involving physical issues such as social interaction of the members and self-control of the members in dealing with customers or other parties.

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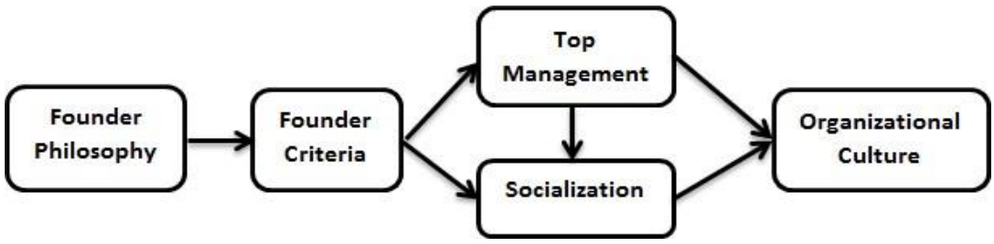
- **Building an Organizational Culture**

Robbins (2008) argues that it will take a long time to build an organizational culture. Once created, it tends to be held firmly and it will be difficult for any managers to change it.



The organizational culture, firstly reflecting organizational founder's philosophy, may determine behaviour norm. The employees should behave in accordance to organizational basic assumptions. Consequently, this behaviour norm eliminates ones who do not fit to it. In other words, a process of selection is involved.

The explicit aims of the selection process are to identify and to employ individuals who provide themselves with knowledge, skills and abilities of managing tasks successfully in the organization. In this case, socialization is a organizational strategy to manipulate employees to adapt organizational values (the things are highly valued). Alternatively, in this process newcomers are transformed from outsiders to members who participate effectively. Focusing on this strategy, socialization covers three levels in its process,

1. Anticipatory socialization.
   All of the learning process occurs before a newcomer's first day on the job. He learns about values of organization and the congruence of his abilities to demands of the job.
2. Encounter.
   The newcomer may clarify the organization associated with the job and experiences the real situation in which expectation may clash with realities.
3. Change and Acquisition (Metamorphosis)
   In this level, the newcomer starts to master the demands of the job and to adapt to the job, group of work and organization. Simply, he starts being an organizational insider.

Importantly, some dimensions introduce to shape organizational culture. Donald R. Brown and Don Harvey classify dimensions of organizational culture into six characteristics as followed.

1. *Individual Autonomy*. It describes the level of opportunity, freedom and responsibility of organizational members to do initiative.
2. *Sensitivity to customer and employee's needs*. The characteristic is recognized as responsiveness to change of needs.
3. *Supports*. It covers assistance and acceptance reflected on leadership.
4. *Interested in supporting employee whose initiative reflects new ideas*. In this sense, employees are stimulated to improve their quality and productivity to the higher level.
5. *Openness to access various valuable communicative Medias*. The characteristic illustrates a free will to communicate with other employees, teams and leaders.
6. *Confrontation*. It illustrates a behaviour of taking a risk. It means that organizational members are stimulated to respond aggressively and innovatively; they challenge a change.

Attaining Brown and Harvey's characteristics as dimensions of organizational culture valued, Stephen Robbins proposes seven main characteristics as stated here.

1. Innovation and Challenge to take a risk. It is the level in which employees are supported to believe in being innovative and in having courage to take a risk.
2. Concern with details. The employees are expected to perform the job accurately and analytically, and to be concerned with details.
3. Result orientation. Management focuses on the result or output rather than technical issue and the process.
4. Human orientation. Consideration to the effects on organizational members is prioritized while management makes a decision.
5. Team orientation. Teamwork is more favourable than individual to manage organizational activities.

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6. Aggressivity. It is organizational members' behaviours of being aggressive and competitive.
7. Stability. Organizational activities emphasize on maintaining status quo.

III. Discussion and Construct

As a "latent-variable", a measurement of organizational culture is conceptualized to make culture "manifest-variable", an analyzable variable. The dimensionalities operated on variables of questions may be implemented to assess the culture. Analyzing from the extant studies, dimensions are formulated in different perspectives.

Romualdas and Vida (2006) performed twelve dimensions that may be described as: (1) involvement, (2) cooperation (collaboration), (3) transmission of information, (4) learning, (5) care about clients, (6) adaptability, (7) strategic direction, (8) reward and incentive system, (9) system of control, (10) communication, (11) agreement, (12) coordination and integration.

Extrapolating from Romualdas and Vida's dimensions, written by Maggy and Allan (2008), evaluates the culture using six dimensions: (1) Process Oriented vs. Results Oriented, (2) Employee Oriented vs. Job Oriented, (3) Parochial vs. Professional Open, (4) System vs. Closed System, (5) Loose Control vs. Tight Control and (6) Normative vs. Pragmatic.

Meanwhile, Dodi Wirawan (2009) adapted the dimensions of Triandis (2004) and Hofstede (2006) to assess the organizational culture that is developed and maintained in organizations in Indonesia. The dimensions cover: (1) Group collectivism, (2) Power distance, (3) Humane orientation, (4) Uncertainty avoidance, (5) Institutional collectivism, (6) Future orientation, (7) Performance orientation, (8) Assertiveness, and (9) Gender egalitarianism.

The research of Mujeeb and Tahir (2011) applied dimensions: (1) Involvement Culture, (2) Consistency Culture, (3) Adaptability Culture, (4) Mission Culture to measure the organizational culture. The measurement was formulated using the research results of Denison (1990) and Denison & Mishra (1995).

Then, Anuradha (2011) applied four dimensions developed by Hofstede (2000) to assess the culture. Those dimensions were: (1) Power distance (distribution of power), (2) Individualism/Collectivism, (3) Uncertainty avoidance, and (4) Masculinity and Long term orientation.

Fakhar and Rana (2012) implemented Classification approach to organizational culture. The culture is assessed using union model developed by Rousseau (1991).

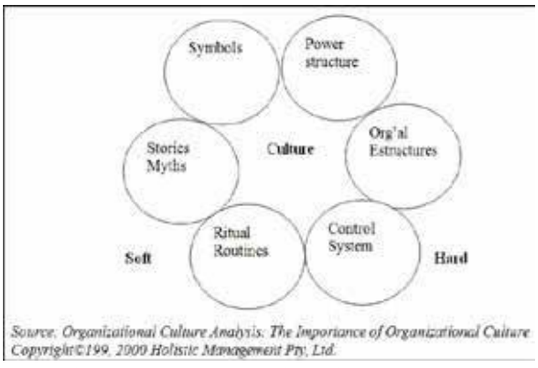

Figure 1. Organizational Culture union model

In classification approach, organizational culture is considered as onion based on different layers. Norms and values are the invisible but most important aspect of the organizational culture.

Different from Fakhar and Rana, Kęstutis (2013) used Hostede's dimensions and compared them with other dimensions developed by House et. al. (2004). Hostede's dimensions describe Power distance, Uncertainty avoidance, Individualism– collectivism, Masculinity-femininity and Long-term – short-term orientation to analyze the organizational culture. In order to examine culture through values and practice, those dimensions were compared with House et. al.'s dimensions resulted in from a ten-year research program known as GLOBE. They presented cultural dimensions: Uncertainty avoidance, Individualism - collectivism dimension, Masculinity - femininity dimension, Long-term-short-term, Power distance, Uncertainty

avoidance, Focus on the future, The institutional collectivism, Group collectivism, Orientation to humanity, Performance orientation, Gender equality, Assertiveness.

Furthermore, Muge (2014) measured organizational culture using five dimensions: Power distance, Uncertainty avoidance, Individualism, Masculinity, and Long term (Hofstede 1984-1997-2001; Hofstede and Bond, 1988; S Hermerhorn, 2010). *Power distance* is defined as "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally." *Individualism* is the degree to which society emphasizes self-interest and individual accomplishment versus the interest of groups and collective accomplishment. *Masculinity* focuses on the degree masculine values such as competitiveness rather than feminine values like relationship buildings. *Uncertainty avoidance* (from strong to weak) is the level of tolerance for uncertainty situation like risk, change. *Time orientation* (formerly called Confucian work dynamics) is the degree which a culture emphasizes long-term or short-term thinking.

Finally, Dimitrios and Athanasios (2014) assessed organizational culture where the interest is on four dimensions developed by Harrison (1975). The dimensions cover orientation to power, roles, tasks and individuals. The figure 2 illustrates the matrix of Organizational Culture Dimension, which later generates new construct of organizational culture.

No.	Organizational Culture Dimension	Romualdas & Vida 2006	Maggy dan Allan (2008)	Dodi Wirawan 2009	*Mujeeb& Tahir 2011*	Anuradha 2011	Fakhar & Rana 2012	Kęstutis 2013	Muge 2014	Dimitrios & Athanasios, 2014
1	Involvement	■			■					
2	Cooperation	■								
3	Learning	■								
4	Care About Clients	■								
5	Adaptability	■			■					
6	Strategic Direction	■		■						
7	Reward And Incentive System	■	■							
8	System Of Control	■	■					■		
9	Agreement	■								
10	Coordination And Integration.	■						■		
11	Parochial Vs. Professional Open		■							
12	Normative Vs. Pragmatic		■							
13	Power Distance			■		■		■	■	■
14	Uncertainty Avoidance			■			■		■	
15	Institutional Collectivism			■						
16	Performance Orientation			■						
17	Mission Culture				■					
18	Masculinity			■			■		■	
19	Symbol							■		
20	Long-Term – Short Term Orientation				■		■			
21	Consistency Culture,				■					
22	Individualism				■		■		■	■

Figure 2. Organizational Culture Dimension Matrix

The construct is synthesized by referring to the most frequency of implementation of dimensions. Referring to the figure, there are seven constructs generated from twenty-two dimensions applied. They are:

1. Power Distance

Power distance - is associated with request or non-request of inequality in society, as well as with dependence and interdependence levels. This dimension shows how many people recognize that over their management hierarchy are those within power.

2. System Of Control
   Control Systems are the reward systems and measurement system, which help, uncover the organization's areas of importance and focus, (Maggy dan Allan, 2008).
3. Uncertainty Avoidance
   The degree to which people prefer structured over unstructured situations (Dodi, 2009).
4. Adaptability
   Ironically, organizations that are well integrated are often the most difficult ones to change. Internal integration and external adaptation can often be at odds (Mujeeb and Tahir 2011).
5. Strategic Direction
   The degree to which individuals in organizations engage in future-orientated behaviour (Dodi, 2009).
6. Reward And Incentive System
   the degree to which individuals in organization encourage and reward individuals for acts of fairness, altruism, friendliness, generosity, caring, etc. (Dodi, 2009).
7. Involvement
   Effective organizations empower their people, build their organizations around teams, and develop human capability at all levels (Lawler, 1996; Mujeeb and Tahir 2011)

IV. CONCLUSION

Organizational culture is a set of perceptions or values that are shared by members of an organization. These underlying values have a significant influence on the behaviour of organizational members; they guide members to solve problems and to make decisions. It is also suggested that culture influences employee attitudes for adaptation and assembly. In other words, organizational culture is conceptualized as dimensions that may affect employee attitudes. Despite of the origin of its usage in anthropology, organizational culture is argued to independently link to organizational performance.

The analysis of concepts close parallel with research and writings published on academic journals purporting to be indexed issued from 2003 to 2013 yields the innovative constructs of organizational culture. They are (1) Power Distance, (2) System Of Control, (3) Uncertainty Avoidance, (4) Adaptability, (5) Strategic Direction, (6) Reward And Incentive System, and (7) Involvement.

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The Issues of Urban NIMBY Conflict in China

SUN Linlin
Department of Building and Real Estate Department
The Hong Kong Polytechnic University

Edwin H. W. Chan
Department of Building and Real Estate Department
The Hong Kong Polytechnic University

ZHU Dajian
Department of Public Management
Tongji University
……..

ABSTRACT

This paper aims to examine the issues of urban NIMBY conflict in China. Since 1970s, NIMBY (Not-In-My-Back-Yard) syndrome has become a worldwide challenge for urban development. Since 2007, urban NIMBY conflict events have frequently occurred in China. With the rapid urbanization in China, experts have predicted that in the next decade NIMBY phenomenon would appear frequently. However urban NIMBY conflict management research is on the initial study stage in China and western scholars also doubt whether the western theory applicable. This study first constructs a general framework based on the PSR (press-state-response) framework to analyze urban NIMBY conflict. NIMBY facility type, the interaction between local government and the residents and the management strategies are the variables in the analysis framework. Based on the four case studies that represent the NIMBY conflicts arousing by four kinds of NIMBY facilities, the issues of urban NIMBY conflict in China are identified. The results show that few windows for public participation to NIMBY facility decision making, EIA report of the planning stage and the project EIA report are not access to public, local government's stability maintenance approach response intensify public opposition to NIMBY facilities in China. In-depth analysis on the causes behind the issues found in this paper needs to be studied in the future.

Keywords: NIMBY conflict, public participation, EIA, China

1 INTRODUCTION

NIMBY (an acronym for the phrase Not In My Back Yard) phenomenon is defined as a public opposition to some public facilities in urban development. These facilities such as landfills, incinerators, substations, power plants, highways, waste treatment facilities, hospitals are named NIMBY facilities. NIMBY facilities may bring negative effects such as environmental, health, safety, and economic and social impacts to the nearby community but benefits to the wider public (Lake, 1993; Inhaber, 1998). Local residents raise serious concerns to the NIMBY facilities that often lead to protest and opposition some even lead to conflicts with local governments.

NIMBY conflict has become a challenge for local government. Different countries and areas have taken a variety of measures to resolving this conflict. Public participation, information disclosure and transparency have been studied as strategies on relieving public risk perceptions to NIMBY facility (Wolsink, 2007; Wolsink & Devilee, 2009; Wright & Boudet, 2012).

However, the relationship between local government and residents during the management process of NIMBY facilities seems to be getting worse. Empirical research shows that the NIMBY facilities siting make residents lose trust to the government (Wolsink, 2007; O'Garra et al., 2008; Botetzagias & Karamichas, 2009). The existing literature has studied the issues of different kinds of NIMBY facilities, however few focus on the common issues of NIMBY facilities. On the other side, with the rapid urbanization, NIMBY conflict occurs frequently in China and the city managers face serious challenges. Although Scholars have studied most on the NIMBY conflict in Western countries, China urban NIMBY conflict management research is on the initial study stage.

This paper aims to examine the issues of urban NIMBY conflict in China. First, it reviews the literature on the types of NIMBY facilities and causes of and strategies to NIMBY conflict. Base on the PSR model, it constructed a framework to analyze NIMBY conflict management. Second, according to the types of NIMBY facilities, four cases were selected to analyze the interaction between local government and residents during the NIMBY conflict management. Finding and discussions are in the third part. In the last part, conclusion is provided.

2 LITERATURE REVIEW

2.1 The types of NIMBY conflict

Based on the facility function and sustainability perspective, Sun & Zhu (2014) divided NIMBY facilities into four types, waste NIMBY facility, energy and relative infrastructure NIMBY facility, welfare and relative infrastructure facility and transport and relative infrastructure facility (Table1). This paper follows this categorize and chooses representatives of three types of the NIMBY facility to do further research.

Table 1: The types of NIMBY facilities (Sun & Zhu, 2014)

The types of NIMBY facilities	Examples
Waste NIMBY facility	Waste incinerator, landfills
Energy and relative infrastructure NIMBY facility	Power plant, substation
Welfare NIMBY facility	Funeral, welfare hospital
Transport and relative infrastructure NIMBY facility	Airport, highway

2.2 The causes of NIMBY conflict

At present there are mainly two aspects to research on the factors of NIMBY conflict, one aspect is to focus on the nearby residents and the other is to focus on the facility siting.

The research on the local residents mainly focuses on the mood of those living in the community of the NIMBY facility. The micro-level is research on their attitudes (Halstead, 1993; Hampton, 1996; Piat, 2000; Eser and Luloff, 2003; Bell, 2005; Ferreira and Gallagher, 2010). Hampton (1996) surveyed public attitude to NIMBY facilities from social, environmental and economic dimensions. It shows that the risk perception of community residents was the main reason affecting public attitude. The risks perceived included environmental risk, health risk, safety risk, life quality risk, property devaluation risk, unfair treatment risk and the distance from the community to the facility.

The earliest siting selection method referred to the least-cost technical standard, using the criteria such as the existence of flat and stable terrain, the availability of cooling water, a relatively low population density, accessibility to transportation routes, and proximity to major load centers,

then used scores to site the least –cost candidate sites (Jopling, 1974). Because of NIMBY syndrome, city managers gradually began to consider the social impact when planning facility siting (Tang, Wong, & Lau, 2008).

2.3 The strategies to reduce NIMBY conflict

Although the causes of NIMBY conflict have been most studied in the existing literature, in practice the relationship between local government and the residents became increasingly tense, so the research gradually changed direction from research on the attitude of local residents to how to govern NIMBY conflict (Tao & Tong, 2010). Public participation, transparency and EIA were taken by government as a response to citizens' environmental worries and access to information of NIMBY facility decision-making. However, recently the experience of scholars and practitioners showed that public participation did not tend to make citizens accept the facility, and had little impact on government decision making.

From the above literature review, the research questions in this paper are as followed,

1 Do the residents in China also opposite to these four kinds of facilities?

2 Why NIMBY conflict occur in China?

3 How do the local government interact with residents for the NIMBY facilities?

4 Whether public participation, EIA and transparency are the contentious points of urban NIMBY conflict management in China?

2.4 Framework to analyse urban NIMBY conflict management

In order to analyze the issues of urban NIMBY conflict management, this paper developed a framework from the PSR (Press-State-Response) model. PSR model, which was proposed by OECD and UNEP, was a conceptual model used as a tool to analyze sustainable development policies. This model provided a policy analysis approach according to the causal relationship that explained, "what happened, what is the current situation and how we can deal with" these three basic issues in the policy analysis process (ZHU, 2010). Base on the PSR model, this study develop a simplified framework (Figure 1) that identifies key variables including the types of NIMBY facility, the interaction between local government and the residents and the strategies response to governing NIMBY conflict. This paper used this approach to understand what are the current NIMBY conflict situation in China, what are the factors that lead to this situation and what can be done in order to solve this conflict.

3 METHODOLOGY

Review from the literature above, case study has been the primary strategies for scholars studying on the issues of urban NIMBY conflict. Data sources are interviews with nearby residents, government documents and website information relative to the cases. 4 Public managers, 7 nearby residents and 10 experts were interviewed from December, 2013 to January, 2014, and from July, 2014 to August, 2014.

Table 2 shows the background of the selected cases in this study. They are Shanghai Hongyang Substation, Shanghai Hongqiao airport, Guangzhou Panyu incinerator and Xuzhou round-city highway. These four cases are selected according to the types of NIMBY facilities in the literature review and each represents the conflict arising from energy facility, transportation facility, waste facility. Because NIMBY conflict arising by welfare facility is hard for authors to investigate so the welfare facility is not included in this study.

Table 2: The selected four cases conflict between local government and residents

Cases	**Types of**	**Causes of**	**Government**	**The**	**The**

	NIMBY facility	**NIMBY conflict**	**response strategies**	**response of the residents to the measures takes by local government**	**outcome of the interaction**
Xuzhou Municipal round-city highway	Transportation facility	Highway closely to the nearby community	Extent the distance between the highway and the community	Accepted the revised proposal by the district government	Highway has been operating and relieve the NIMBY conflict
Shanghai Hongqiao airport runway extension project	Transportation facility	Aircraft noise pollution and its take off altitude causing a security risk	Conducted noise reduce project to the impacted community	The nearby community not satisfy with the noise reduce project	Airport runway has been operating while NIMBY conflict still existing
Guangzhou panyu incinerator	Waste facility	Nearby residents worried about the distance causing air pollution, health risk and real estate devaluation.	Under the strong social pressure, local government stated, 'If the EIA was not passed and public did not accept then the project would not be passed.'	Accepted the response strategy adopted by the local government	Facility resiting was passed
Shanghai Hongyang substation	Energy facility	Nearby residents didn't know the substation until they moved in the community and they worries about the safety, health risk and real estate devaluation.	Invite experts and public officials to defend and take social stability maintenance (ssm) approach	Not satisfy with government's response and ssm intensify the degree of satisfaction	Distrust district government and NIMBY conflict still existing

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4 FINDINGS AND DISCUSSIONS

4.1 Few windows for public participation

Few windows for public participation to NIMBY facility decision making in China. In the case of Shanghai Hongyang substation, a resident said, 'If the neighborhood cadre living in our community didn't tell us the substation information, we couldn't know it. Until we confirmed through the hot line with city mayor, we finally accepted the fact that there really would be a substation to be built besides our community' (Interview with resident, Shanghai, 30 August, 2014). Local governments usually adopt the 'decide-announce-defend' (DAD) approach in China. Political elite and expert elite are the main decision makers. 'It is not necessary to engage public to make the siting decision. They don't have expertise knowledge', one public staff claimed for their planning decision making (Interview with public officials, Shanghai, December, 2013). In China public participation laws are limited. At present public participation are ruled in the project planning and project EIA phrase. However in practice before the public consultation stage, public seldom know the project. Arnstein (1969) provided a citizen participation ladder with eight degrees of public participation, from bottom to up three levels, non-participation, tokenism and citizen power. An expert stated, 'there is no public participation in China except the protest action' (Interview with expert, Hong Kong, April, 2015). In the case of Honghang substation, public participation became a doubt point and the right the residents asked for. However in the case of Guangzhou Panyu incinerator, government resiting planning engaging public finally make public accept the new location.

From the four cases it finds that the issues of NIMBY conflict not only arise of environmental, safety and real estate devaluation risks. In the cases of Shanghai Hongyang substation and Hongqiao airport runway, issues such as land use, information transparency and distrust are also the key issues residents cared most. However it finds that these issues are relative to many public sectors not only the responsibility of Environment Protect Department.

4.2 EIA report of the planning stage and the project EIA report

EIA system, which was created by the United States, has developed for more than 40 years. The EIA system plays a role in protecting environment in varying degrees. However, an environmental impact assessment practice is also controversial. On the one hand, some experts believe that from the perspective of institutional change, environmental impact assessment is one of the most successful environmental protection systems, on the other hand, some scholars pointed out that the environmental impact assessment is a professional package of the political regime, which might not represent the broad public interest (Tang & Chiu, 2010). Except the case of Xuzhou round-city highway, it finds that EIA is also the controversial issue in the other cases. In China environmental NIMBY conflicts are significant. Citizens more and more care of the living environment quality. In the western countries, EIA report is open to public but in China EIA report is not completely provided to public just a simple report. In the case of Shanghai Hongyang substation, one EIA expert administration meeting record providing by local government led strong doubt by the residents. A interviewed resident said, 'Environment impact assessment needs to be assessed by the experts major in environment science. But why an expert major in xinfang (*visit and letter*) can be the member' (Interview with resident, Shanghai, August, 2014). 'NIMBY phenomenon is a conflict of social issue but in China local governments prefer to use political approach to press it (Interview with one expert, Shanghai, December, 2013).

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4.3 The stability maintenance measure further intensified the conflict

Stability maintenance measure is the characterized political approach usually used by local governments in China. In China, stability maintenance (*wei wen*) is a governance task for different levels of governments, which is a measure to maintain the social stability and sustained economic development. In order to maintain social stability, some local government who do not support these activities suppressed tough attitude to the local residents, which is the meaning of stability maintenance. In the case of Shanghai Hongyang substation, the nearby residents showed strong dissatisfaction to the measures taken by the government. Interviewees said that the government dispatched police to stop residents' collective action at the community gate and monitored their behaviour and even gave pressure to the companies at which the residents worked and made their employer persuade them (The work places of the persuaded residents are state-owed company or public sectors)(Interview with residents, Shanghai, August, 2014). However this stability maintenance strategy cannot solve the root problem of this kind of NIMBY conflict. The government does not expect people to "stroll on the street" and then followed by other people. In China, stability maintenance indicator has been added to the performance of government officials (National Petition Regulations, 2005).

5 CONCLUSION

This study examined the issues of urban NIMBY conflict management in China. Based on the selected cases, it was found that public participation, EIA and transparency are the key factors impacting urban NIMBY conflict in China. Specifically, few windows for public participation to NIMBY facility decision making, EIA report of the planning stage and the project EIA report are not access to public, local governments' stability maintenance response intensify public opposition to NIMBY facilities in China. The findings verify the analysis framework for urban NIMBY conflict management and the western NIMBY theory is also available in China scenario. Welfare facilities and in-depth analysis on the causes behind the issues found in this paper needs to be studied in the future.

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