

## THE INTERNATIONAL JOURNAL of ORGANIZATIONAL INNOVATION

*VOLUME 7 NUMBER 2, OCTOBER 2014*

### Table of Contents

*Page: Title: Author(s):*

3. Information Regarding IAOI, ICOI and IJOI
4. 2014 IJOI Board Of Editors
6. A Conceptual Framework For Guiding Business Transformation And Organizational Change In Innovative ICT Projects  
G. A. De Waal, A. Maritz, H. Scheepers, S. Mcloughlin & B. Hempel
18. Empirical Study On The Relationship Between Coffee Tasting Quality And Recreation Specialization, Product Involvement, And Country Of Origin Image  
Yueh-Hsin Wu, Ya-Hui Kuo, Chih-Yun Yang
27. Model Of State-Owned Enterprise (SOEs) Privatisation Through New Common Stock And Its Implication Towards Financial Performance Period 2005-2012  
Ibnu Khajar
38. U.S. Banks: Can They Improve? A Deming Analysis Of Internal Operations  
Bryan Epps, Sergey Ivanov
48. The Communication Effects Of Internet Rumor On College Students  
Dong Jenn Yang, Wan Ting Chung
63. A Case Study Of The Corporate Turnaround Strategies  
Wei-Hwa Pan, Yih-Lang Chen
79. Job Insecurity And Other Leadership Issues In Organizations  
Eddie D. Lawton Jr., Fikru Taye, Sergey Ivanov

87. Innovation Strategies Of Local Intermediary Organizations For Environmental Protection: A Case Study Of Green Island, Taiwan  
Ren-Fang Chao
98. Mapping The Intellectual Structure Of Education Management  
Chin-Hsiu Tai, Che-Wei Lee, Yender Lee
116. An Analysis Of Optimization Design Of High-Speed Connectors Heat-Sink And The Design Improvement Technique  
Hsu Ming-Chun, Shu-Lung Wang, Hung-Wen Lin

\*\*\*\*\*

## Information Regarding:

**The International Journal of Organizational Innovation (IJOI),  
The 2014 International Conference on Organizational Innovation, and  
The International Association of Organizational Innovation (IAOI).**

*The International Journal of Organizational Innovation (IJOI)* (ISSN 1943-1813) is an international, blind peer-reviewed journal, published quarterly. It may be viewed online for free. (There are no print versions of this journal; however, the journal .pdf file may be downloaded and printed.) It contains a wide variety of research, scholarship, educational and practitioner perspectives on organizational innovation-related themes and topics. It aims to provide a global perspective on organizational innovation of benefit to scholars, educators, students, practitioners, policy-makers and consultants. All past issues of the journal are available on the journal website. Submissions are welcome from the members of IAOI and other associations & all other scholars and practitioners. Student papers are also welcome.

For information regarding submissions to the journal, go to the journal homepage:  
<http://www.ijoi-online.org/> To Contact the IJOI Editor, email: [ijoinnovation@aol.com](mailto:ijoinnovation@aol.com)

**The International Association of Organizational Innovation (IAOI)** is the publisher of this journal. It also holds an Annual Conference (See Below). For more information on the **International Association of Organizational Innovation**, go to: <http://www.iaoiusa.org>

### **The International Conference on Organizational Innovation (ICOI):**

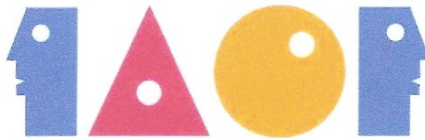
The 2015 International Conference on Organizational Innovation will be held August 4-6, 2015 in Yogyakarta, Indonesia. It will again be hosted by Airlangga University which did such a great job hosting our 2012 Conference in Surabaya, Indonesia. The conference location will be at the Royal Ambarukmo Hotel, Yogyakarta, Indonesia. Plan on joining us there! The conference website is: <http://www.iaoiusa.org/2015icoi/index.html>

To see an introduction to the conference hotel and region, see the following video - it will convince you to attend!!

[https://www.youtube.com/watch?feature=player\\_embedded&v=MfnsB31RFgc](https://www.youtube.com/watch?feature=player_embedded&v=MfnsB31RFgc)

For more information on the conference location, please visit <http://www.yogyes.com/>

\*\*\*\*\*

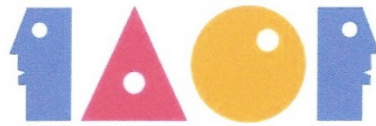


## THE 2014 BOARD of EDITORS

**Position:      Name - Affiliation:**

Editor-In-Chief	Frederick L. Dembowski - International Association of Org. Innovation, USA
Associate Editor	Chich-Jen Shieh - International Association of Org. Innovation, Taiwan R.O.C.
Associate Editor	Kenneth E Lane - Southeastern Louisiana University, USA
Associate Editor	Sergey Ivanov - University of the District of Columbia, USA
Assistant Editor	Ahmed M Kamaruddeen - Universiti Utara, Malaysia
Assistant Editor	Alan E Simon - Concordia University Chicago, USA
Assistant Editor	Alex Maritz - Australian Grad. School of Entrepreneurship, Australia
Assistant Editor	Anton de Waal - Swinburne University of Technology, Australia
Assistant Editor	Asma Salman - American University in the Emirates, Dubai
Assistant Editor	Barbara Cimatti - University of Bologna, Italy
Assistant Editor	Ben Hendricks - Fontys University of Applied Sciences, the Netherlands
Assistant Editor	Bettina Stevanovic, University of Western Sydney, Australia
Assistant Editor	Carl D Ekstrom - University of Nebraska at Omaha, USA
Assistant Editor	Catherine C Chiang - Elon University, USA
Assistant Editor	Chandra Shekar - American University of Antigua College of Medicine, Antigua
Assistant Editor	Chung-Hung Lin - I-Shou University, Taiwan, R.O.C.
Assistant Editor	Dafna Kariv, College of Management Academic Studies, Israel
Assistant Editor	Davorin Kralj - Institute for Cretative Management, Slovenia, Europe.
Assistant Editor	Denis Ushakov - Northern Caucasian Academy of Public Services
Assistant Editor	Eloiza Matos - Federal Technological University of Paraná - Brazil
Assistant Editor	Earl F Newby - Virginia State University, USA
Assistant Editor	Fernando Cardoso de Sousa - Portuguese Association of Creativity and Innovation (APIC)), Portugal
Assistant Editor	Fuhui Tong - Texas A&M University, USA
Assistant Editor	Gloria J Gresham - Stephen F. Austin State University, USA
Assistant Editor	Hassan B Basri - National University of Malaysia, Malaysia
Assistant Editor	Heather Farmakis – Academic Partnerships, USA
Assistant Editor	Henry T Burley - La Trobe University, Australia
Assistant Editor	Hong-Cheng Liu - I-Shou University, Taiwan R.O.C.
Assistant Editor	Hsin-Mei Lin - National Chi Nan University, Taiwan R.O.C.
Assistant Editor	Chun-Ming Hsieh - Tongji University, China
Assistant Editor	Ilias Said - Universiti Sains Malaysia, Malaysia
Assistant Editor	Ileana Monteiro - Portuguese Association of Creativity and Innovation, Portugal
Assistant Editor	Ismael Abu-Jarad - Universiti Utara Malaysia
Assistant Editor	Janet Tareilo - Stephen F. Austin State University, USA
Assistant Editor	Jeffrey Oescher - Southeastern Louisiana University, USA
Assistant Editor	Jian Zhang - Dr. J. Consulting, USA
Assistant Editor	John W Hunt - Southern Illinois University Edwardsville, USA

Assistant Editor Julia N Ballenger - Texas A & M University - Commerce, USA  
Assistant Editor Julius Ndumbe Anyu - University of the District of Columbia, USA  
Assistant Editor Jun Dang - Xi'an International Studies University, P.R.C. China  
Assistant Editor Jyh-Rong Chou - I-Shou University, Taiwan R.O.C.  
Assistant Editor Kai-Ping Huang - University of Technology, Sydney, Australia  
Assistant Editor Ken Kelch - Alliant International University, USA  
Assistant Editor Ken Simpson - Unitec, New Zealand  
Assistant Editor Kerry Roberts - Stephen F. Austin State University, USA  
Assistant Editor Krishnaswamy Jayaraman, Universiti Sains Malaysia  
Assistant Editor Madeline Berma - Universiti Kebangsaan, Malaysia  
Assistant Editor Marius Potgieter - Tshwane University of Technology, South Africa  
Assistant Editor Mei-Ju Chou - Shoufu University, Taiwan R.O.C.  
Assistant Editor Melissa Kaulbach - Sarasota University  
Assistant Editor Michelle Williams - Stephen F. Austin State University, USA  
Assistant Editor Michael A Lane - University of Illinois Springfield, USA  
Assistant Editor Muhammad Abduh - University of Bengkulu, Indonesia  
Assistant Editor Nathan R Templeton - Stephen F. Austin State University, USA  
Assistant Editor Noor Mohammad - Faculty of Law, Universiti Kebangsaan, Malaysia  
Assistant Editor Nor'Aini Yusof - Universiti Sains Malaysia, Malaysia  
Assistant Editor Olivia Fachrunnisa, UNISSULA, Indonesia  
Assistant Editor Opas Piansoongnern - Shinawatra University, Thailand  
Assistant Editor Pawan K Dhiman - EDP & Humanities, Government of India  
Assistant Editor Ralph L Marshall - Eastern Illinois University, USA  
Assistant Editor Ray Thompson - Texas A&M University-Commerce. USA  
Assistant Editor Richard Cohen - International Journal of Organizational Innovation, USA  
Assistant Editor Ridong Hu - Huaqiao University, P.R. China  
Assistant Editor Shang-Pao Yeh - I-Shou University, Taiwan R.O.C.  
Assistant Editor Shanshi Liu - South China University of Technology, Taiwan R.O.C.  
Assistant Editor Sheng-Wen Hsieh - Far East University, Taiwan R.O.C.  
Assistant Editor Siriwan Saksiriruthai - Suan Sunandha Rajabhat University, Thailand  
Assistant Editor Stacy Hendricks - Stephen F. Austin State University, USA  
Assistant Editor Thomas C Valesky - Florida Gulf Coast University, USA  
Assistant Editor Tung-Yu Tsai - Taiwan Cooperative Bank, Taiwan R.O.C.  
Assistant Editor Wen-Hwa Cheng - National Formosa University, Taiwan R.O.C.  
Assistant Editor Yung-Ho Chiu - Soochow University, Taiwan R.O.C.  
Assistant Editor Yulun Hsu - Nan Jeon Institute of Technology, Taiwan, R.O.C.  
Assistant Editor Zach Kelehear - University of South Carolina, USA



## A CONCEPTUAL FRAMEWORK FOR GUIDING BUSINESS TRANSFORMATION AND ORGANIZATIONAL CHANGE IN INNOVATIVE ICT PROJECTS

G. A. De Waal\*, A. Maritz, H. Scheepers, S. McLoughlin & B. Hempel  
Swinburne University of Technology, Melbourne, Australia

\* Corresponding author: adewaal@swin.edu.au

### Abstract

Through innovation, Information and Communication Technologies (ICT) are constantly evolving and changing industries and paradigms, necessitating a fast paced and integrated transformation of organizations to sustain competitiveness. Existing frameworks and models exist but do not appropriately link technical, innovation and organizational implementation. This paper reviews existing literature on managing change of ICT, innovation processes and related fields and combines findings into one unified conceptual framework that visualizes the process of implementing change of ICT process successfully within organizations.

**Key Words:** Business Process Reengineering, Information and Communication Technology, Change Management, Organizational Change, Innovation, Conceptual Framework

### Introduction

The globalized business world is a fast-paced setting that requires organizations to continuously sense market changes and adapt their resources in order to stay competitive (van Reijssen et al., 2014). Information and Communication Technology (ICT) is one of the fastest evolving technologies and innovations worldwide, offering new approaches, products and services, making individual, organizational change and innovation in the use of ICT an ongoing topic in research (Huang et al 2012; Cameron and Green 2012).

ICT also plays a vital role in modern organizations; quite often it is the actual

core of business, and it is what makes the organization operates efficiently and effectively (O'Neill 2011). ICT processes touch and influence nearly every other process within an organization and has significant potential to impact productivity and business transformation for increased competitiveness. ICT systems are often managed and improved from a purely technical perspective despite the huge impact even small changes can make in this field, because they affect everyone in an organization (Pugh, 2007, Orlikowski and Barley, 2001, Orlikowski and Yates, 2006).

Models such as the Information Technology Infrastructure Library (ITIL) sum up the best practices from a technical point

of view (Pollard and Cater-Steel, 2009). Thereby this and other models and frameworks supply a good starting point for business transformation and organizational change.

On the other hand, there exist several different approaches on the topic of how to manage the change induced by these new processes to organizational culture. Each has its own methodologies, methods and tools. Some of the most known examples include Carnall's change management model (Carnall, 1990), Kotter's eight step model (Kotter, 1995), and Senge's systematic model (Senge, 1999).

These examples, however, lack understanding and integration of each other's paradigms and approaches. Frameworks and models focus either on best practices on how to implement the technical parts or either on how to implement these changes in the organization itself (Mumford and Beekman, 1994). This paper aims to bring these models and frameworks together, thereby leading to a successful transformation of the business and organizational change. In order to increase chances of successful implementation of change in ICT in businesses, a framework that includes previously benchmarked paradigms, visualizes the full process. It links the established foundation by methodologies such as ITIL to the appropriate change management tools and recommends actions that will facilitate and reinforce the change.

### Methodology

Following the post-positivism paradigm a deductive and exploratory study of existing literature for best practice in Business Process Reengineering (BPR), Business Transformation and Organizational Change (BT&OC) management has been conducted. Relevant research fields are Change Management, implementation of

Quality Management, Safety Management and Sustainability as well as management of ICT projects. An online research with appropriate search keywords in the Web of Science as well as Google Scholar served as a starting point for the review, following forward and backward citations to select references of key interest. A comprehensive search using bibliometric analysis (based on citation impact) was conducted across the above disciplines. From this, we developed a conceptual framework integrating the various paradigms and concepts.

### Development of the Conceptual Framework

ICT is predominantly process based and the literature guides BPR as an appropriate starting point. Hammer and Champy (1993) viewed business transformation in the three phases defined by Davidson (1993) (BPR, Enhancement and Redefinition), and further enriched it with the change management alignment framework of Williams and Williams (Williams and Williams, 2007). Here the focus is on aligning organizational change to technical parts, but with no emphasis on the technical side in this paper. Sauer et al. (1997) postulate the high risks involved when reengineering mainly addresses ICT processes in companies and place emphasis on the importance of prior strategic planning. Hence a guiding principle in the design of the framework is to firstly focus on transformational issues that relate to business processes and infrastructure (in this case ICT processes) and secondly on organizational structures and systems (Davidson, 1993). The aim is to redesign or introduce new ICT systems for performance gains, and then to respond with appropriate organizational change activities to support the business transformation efforts.

A Conceptual Framework for Linking ICT Transformational Projects and Organizational Change

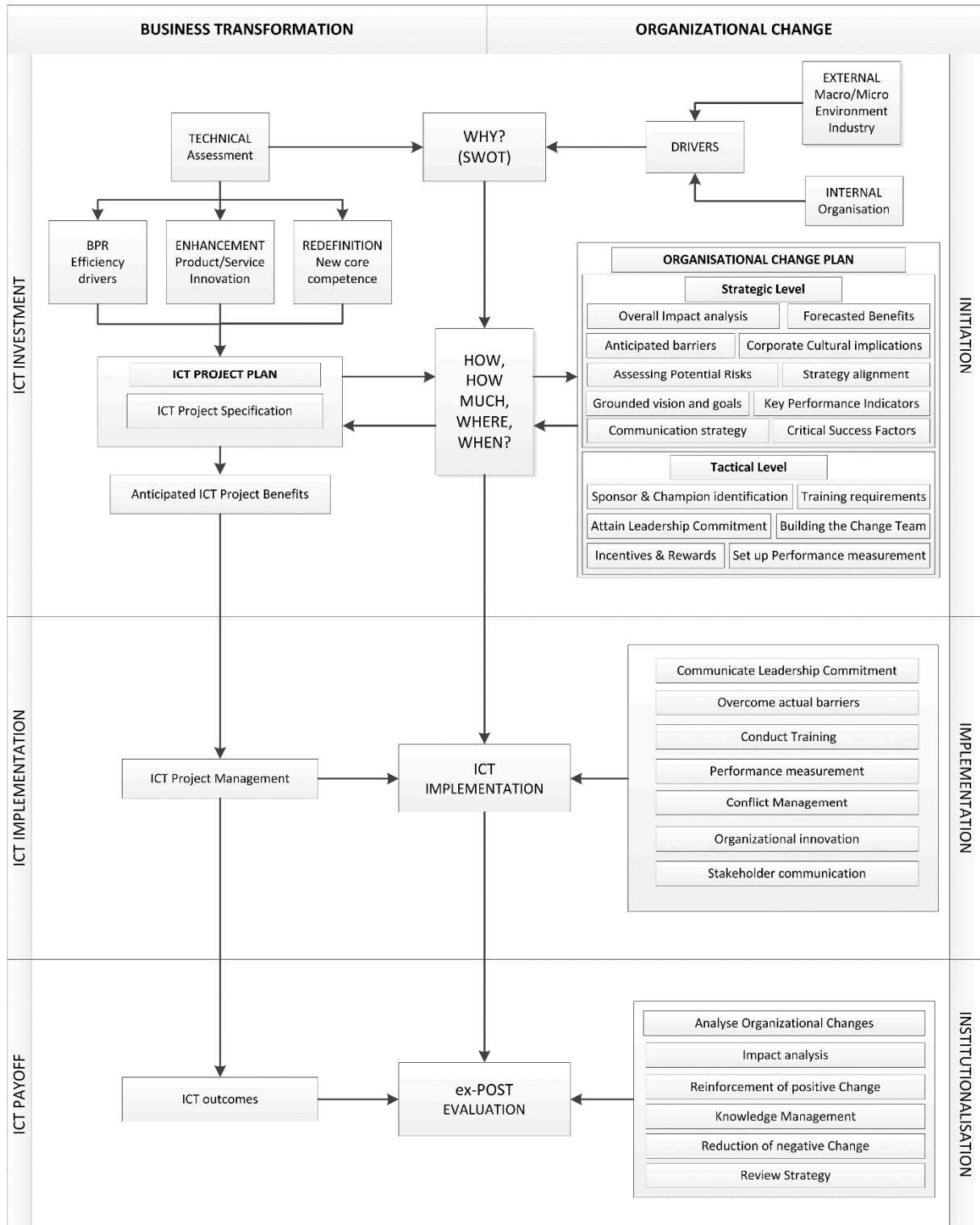


Figure 1. Proposed Conceptual Framework



Our developmental approach of the proposed conceptual framework is provided in Figure 1. What follows is a narrative of the development from a business transformation perspective depicted in the left side of the framework, influencing organizational change dynamics in the right side. Three phases of initiation, implementation and institutionalisation are introduced (Williams and Williams, 2007). We include innovation as an all-encompassing component and process in any ICT change process (Crossan and Apaydin, 2010).

#### *First Phase: Investment in ICT and Initiation of Organizational Change*

This phase is concerned with beginning work, and involves developing commitment to investing in the ICT project (Williams and Williams, 2007). A thorough assessment of the existing and likely future technical capabilities as well as of the internal and external Business Drivers feed into a SWOT analysis to make it clear ‘Why’ business transformation and organizational change are required. A focus of this analysis should be on which areas of ICT need to be reengineered as well as on the user habits linked to existing ICT processes (Orlikowski and Yates, 2006). The BPR approach will help identify what is required in terms of improving key efficiency drivers of the ICT system, the enhancement of offered products and services (product/service innovation) within the system as well as a redefinition of the ICT processes itself by adding new core competencies (Davidson, 1993). These are then put into a technical ICT project plan with appropriate specification and anticipated benefits from a technical point of view. This plan is then combined with the Organizational Change Plan that sums up the needed organizational changes within the organization to fully utilize the increased efficiencies of the ICT process. To draft this into a complete plan of implementation, negotiations and compromises

have to be reached between technical capabilities and the adaptability of the organization to change.

#### *Strategic Level*

This part of the Organizational Change Plan answers ‘What’ has to be changed and ‘Why’; it gives the general strategy for transforming the organization.

*Overall Impact Analysis:* High importance is given to this analytical level, especially into forecasting benefits correctly, assessing the potential risks as well as barriers. Leading top managers and IT experts assessed this activity as a critical success factor (Sauer et al., 1997). The anticipated cultural barriers as well as corporate culture implications are key to successfully start transforming the organization (Schein, 1999, Kotter, 1995, Kotter, 1996). The aforementioned SWOT analysis provides a good starting point and should be refined further, anticipating different scenarios as well as using a future study method like Delphi for Horizon Scanning as well as part of a Risk Management Strategy (Huang et al., 2012, Iden and Langeland, 2010). It also delivers material for later decision making and establishing a sense of urgency as suggested in Kotter’s eight step model (Kotter, 1996, Kotter, 1995) for successfully stimulating organizational change.

*Grounded Vision and Goals:* Goals of what has to be attained first in order to be successful as well as how success is measured have to be negotiated and agreed on. These should be quantified in order to give a reliable answer for the BPR initiative, Critical Success Factors (CSFs) as well as Key Performance Indicators (KPIs) (Blackburn and Rosen, 1993, McCarthy and Blumenthal, 2006, Pande et al., 2000, Pugh, 2007). Benchmarking is a great tool to develop KPIs, either using external results from world class companies or internal results from top performing groups

(Camp and Camp Robert, 1989). Once this step of decision making is finished results have to be translated into a guiding vision, that helps all people involved to understand what is going to be achieved with the new process and how the transition within the organization might affect them (Carnall, 1990).

*Communication Strategy:* In order for everyone to understand (1) the need for change; (2) each single step in the proposed change process; and (3) how it is affected, an appropriate communication strategy has to be formulated. Kotter's eight step model gives good guidance for achieving this and highlights the importance of open communication of the new vision and goals to every member of the organization as well as the stakeholders (Kotter, 1995, Kotter, 1996). The strategy has to facilitate fast feedback loops between subordinates and managers as it is essential to react fast to unanticipated barriers that appear (Stopford and Baden - Fuller, 1994). Storytelling provides a good method to help all members of the organization to identify with the changes and understand the need for change (Jassawalla and Sashittal, 2002).

*Strategy Alignment:* Established organizations often operate a number of existing methods for ICT process or quality improvement such as Continuous Improvement, TQM, Lean Six Sigma or similar with related change management procedures. Executive leaders often challenged to align current operating projects with long-term visions and strategies (Davidson, 1993). While developing the strategic part of the Organizational Change Plan, these already existing parts should be leveraged to achieve higher acceptance faster as well as to save time and money to implement new processes when already existing ones are also suitable (Bansal, 2003, Carnall, 1990, Pande et al., 2000, Pugh, 2007, Willard, 2009). An example would be to show similarities between the

proposed change management processes to the Lean Six Sigma DMAIC approach in order for organization members to grasp the needed actions better. Several authors provide overall guidance as well as step-by-step instructions to achieve this (Cameron and Green, 2012, Pugh, 2007).

#### *Tactical Level*

This part of the Organizational Change Plan focuses on the 'How', 'How much', 'When', 'Where' and 'Who' for the change in the organization. It sums up timeframes, responsibilities, effects and similar to support implementation of above mentioned change strategy.

*Sponsors and Champion Identification:* Change comes with high costs, especially if significant parts of the ICT system in an organization require change. In order to get this costs covered and achieve support from the rest of the business, sponsors in the high management and executive level have to be identified and convinced of the urgency to change (Manley, 2000, Kotter, 1995). In addition, a so-called champion for change should be identified and announced. It is recommended that this role be only given to a limited number of individuals to increase visibility of these individuals' actions and to provide a central point for feedback. Champions have to be familiarized with change management and be highly trained in the required new process so to lead by good example (Bansal, 2003, Beck, 1987, Harris and Crane, 2002, Molnar and Mulvihill, 2003). Beck (1987) recommends using individuals in senior positions that can leverage their position to positively impact change.

*Attain Leadership Commitment & Building the Change Team:* From this point onwards the main role of the sponsors is also to spread motivation inside the company and attain leadership commitment at all levels within the organization. Implementing change is nearly impossible

if the different leadership individuals do not act as catalysts towards their subordinates (Cameron and Green, 2012, O'Neill, 2011). The champion(s) will select additional individuals that form a change team together with themselves. This team should be diverse, interdisciplinary, interdepartmental and highly motivated to move the change project forward to spread it into the full organization (Manley, 2000, Molnar and Mulvihill, 2003). Similar to the champion, team members should enjoy first priority when it comes to training for the changes to be implemented. To increase diversity in the team and to get individuals to acquire skill sets that are not available inside the company, external team members have proven to be helpful. They however also increase the risk of alienation and should be kept low in relative number (McCarthy and Blumenthal, 2006). A CSF that has to be attained is empowerment of the change team and members have to be given resources as well as the power to use them to implement change without being burdened by organizational barriers such as bureaucratic processes in order to be successful (Kotter, 1995).

*Incentives and Rewards:* In order to recruit individuals to become sponsors, champions or members of the change team in the first place there has to be a motivational cause (Handfield and Ghosh, 1994). Especially later on when change is spreading into each part of the organization, there has to be a motivation for people to change. A good illustration of this is provided by Beckhard and Harris' (1977) change formula:

$$C = [ABD] > X$$

In this formula 'C' represents Change that only happens if the combined factors of Level of Dissatisfaction 'A', Desirability of proposed change or end stage 'B' and Practicality of change 'D' are higher than the cost of changing 'X'. The eight step

model provides the necessary stimulus or push factor for 'A'; it is urgent and disastrous not to change. Practicality of change D is achieved by using a thorough strategy and use of best practises that have been shown to be successful. In order to increase the motivation to change, pull factors for 'B' like incentives and rewards should be put into place (Beckhard and Harris, 1977). Since the people directly involved in the change processes in ICT are most likely Knowledge Workers, these have to be adapted to the needs of these specific class of employees as highlighted by Herzberg (1993) and Davenport (2005).

*Training Requirements:* In order to enable all individuals in the organization to successfully implement change, best practice suggests compiling a check list of training and required qualifications. Managers must then check the skill sets of their subordinates and plan for appropriate training to bring them up to speed with what is required. Effectiveness in this regard increases the aforementioned practicality of change 'D'; standardized training reduces miscommunication and increases self-confidence within the new processes (McCarthy and Blumenthal, 2006, Molnar and Mulvihill, 2003, Carnall, 1990).

*Set up Performance Measurement Systems:* To successfully link KPIs to actual performance of the organization, appropriate Performance Measurement Systems (PMS) have to be set up (Blackburn and Rosen, 1993). Depending on the nature of the measured variables these can, for example, be based on the Lean Six Sigma Statistical Process Control (SPC) method for lead and runtimes in ICT processes (Neely, 1999, Pande et al., 2000), Balanced Scorecard for financial impacts of ICT processes (Kaplan et al., 1996) or the Performance Prism that focuses on individual value delivered to the stakeholders (Neely et al., 2001). In order to reduce complexity, already existing PMS should be considered first if they are suitable or

adoptable for use and if there are PMS available that are compatible to these. In addition, setting up external audits by agencies or consultants to get objective and out-of-the-box performance feedback increases the likelihood of successful measurement and thereby reliability of changing successfully (McCarthy and Blumenthal, 2006).

O'Neil (2011) provides a comprehensive definition of what each role in the change team is and what different types of sponsors and champions exist, while Pugh (2007) outlines in a step by step guide how to prepare and plan for implementation on a tactical level.

#### *Second Phase: Implementation of new ICT Processes and Organizational Change*

After successfully completing the Investment and Initiation stage, the new or reengineered ICT business processes are ready to be implemented. Implementation is concerned with putting the innovation (ICT project) into action, and with a major change this phase often occupies a period of between two and three years (Williams and Williams, 2007). Individuals within the organization are informed and confronted with the change and expected to begin the adaptation process. The Change Team and Leadership bear main responsibility to support successful business transformation and organizational change. This phase requires managing problems and conflicts proactively, providing in-between solutions for the time of transition and adapting planned actions to actually needed ones. The ICT Project Management Team as well as the Implementation Team of the ICT process must actively support these activities by implementing feedback from the actual users into the required way of working.

*Communicate Leadership Commitment:* At the start of the implementation phase, ongoing leadership commitment

must constantly be communicated to everybody in the organization to increase motivation for change and demonstrating leadership by example. Following Kotter's (1995) eight step model, the motivational factors defined by Herzberg (1993) as well as the factors highlighted for motivation of knowledge workers (Davenport, 2005) should be kept in mind when communicating change messages to avoid creating new barriers by unclear communication. Leadership commitment can be best expressed if training and team activities are done with higher leaders present. Language, as well as the communication medium should be adapted to the number, job role and group of individuals relevant to each situation (Cameron and Green, 2012), following a frequently updated step-by-step process (Tuckman, 1965, Tuckman and Jensen, 1977).

*Identify and Manage Actual Barriers:* Anticipated barriers to change are often different to the actual barriers that emerge as change plans are implemented. In order to identify emerging barriers timely and approach them coherently, fast iterative loops should be implemented at middle and team management levels; best practices should then be communicated to other entities within the organization (Cameron and Green, 2012, Kotter, 1996, Pugh, 2007). If there is a huge gap between the anticipated and actual barriers, a full review of the plan and strategy should be conducted.

*Conduct Training:* Ongoing training has to be conducted to fill gaps in knowledge and skills that were identified as essential in the organizational change plan. Motivation for change can be increased in these sessions by conducting them in mixed groups with people from different levels in the organizational hierarchy, backgrounds and groups (McCarthy and Blumenthal, 2006). Stressing the importance of

training into the overall storytelling provides additional motivation for change (Jassawalla and Sashittal, 2002).

*Manage Conflict:* Conflict is an essential part of change. Old ways of doing will be challenged, individuals have to adapt to new behaviour which might lead to conflict and challenging the new processes. Conflict situations provide an important opportunity to improve and adopt new processes provided an open mentality and change resilient approach are used (Bridges and Mitchell, 2000, Cameron and Green, 2012). Weinberg (1997) offers a useful conflict management model based on the psychodynamic approach to illustrate the critical conflict points in the change process that have to be accommodated.

*Organizational Innovation:* This activity describes the required innovation that has to take place to successfully transform the organization itself in order to successfully facilitate the technical changes. The changes are getting integrated after the initial conflict, fostering new ideas and innovation (Stopford and Baden - Fuller, 1994).

*Stakeholder Communication:* As business transformation takes place, communicating this change to internal and external stakeholders acts as confirmation of the change. It provides reassurance that the recent effort in business transformation is not just a fad, but a fact that is positively changing the organization. It motivates individuals by showing the importance of what has been done and draws attention to the organization (Davenport, 2005, Stopford and Baden - Fuller, 1994). It also loops back the output obtained from invested resources to the stakeholders.

*Performance Measurement:* The proposed and planned PMS are put into place and actual measurement is being con-

ducted. Supervision of this process - preferably by an external party - is important to avoid individuals cutting corners and making mistakes due to 'institutional blindness' (Blackburn and Rosen, 1993, McCarthy and Blumenthal, 2006).

#### *Third Phase: ICT Payoff and Institutionalization of Organizational Change*

In this phase the ICT project has been implemented according to a set of goals and timeframes; ideally the new ICT systems pay off and add value to the organization which had to find ways to adapt to the new way of working. The emphasis during institutionalisation or continuation is on "seeing the innovation integrated into daily life, and no longer considered as something new" (Williams and Williams, 2007). In this phase evaluation of success (or failure) is done, positive outcomes are reinforced and negative ones analysed and assessed. Knowledge is captured and managed to provide learning to present and future members of the organization.

*Analyse Organizational Changes & Post-Impact Analysis:* The measured performance as well as achieved goals are compared to the planned KPIs. Answering why some were achieved and especially why some were not achieved will provide important learning for the organization which has to be captured and handled in an appropriate way as described below. Surveys as well as interviews could provide feedback on the stage of change the organization is in and what has to be done to reinforce the desired change (Cameron and Green, 2012, Kotter, 1995, Kotter, 1996, Pande et al., 2000).

*Reinforcement of Positive Change & Reduction of Negative Change:* In order to reinforce the initial desired change, the measured change to the ICT process as well as perceived organizational changes should firstly be categorized as positive or negative change (Blackburn and Rosen,

1993, Cameron and Green, 2012). Shorter lead times, faster processing of jobs or higher employee motivation are good examples of positive change that should be reinforced through effective communication that focus on the successes and not on the negative aspects of change. Examples of negative change are a loss in motivation due to confusion with the new systems, an increase in defects and errors or higher employee turnover because of dissatisfaction with the new system (Blackburn and Rosen, 1993). Whatever the case, the reasons for negative change should be closely analysed and measured so to be able to reduce or even reverse these changes. Communicating these problems should be done openly, but not be the main subject of communication (Blackburn and Rosen, 1993, Cameron and Green, 2012, Herzberg, 1993, Kotter, 1995). Celebration of successes of the implemented change is a key success factor (Pugh, 2007).

*Knowledge Management:* In order to succeed in institutionalizing change into the organization, individual as well as organizational learning has to be shared with others on a need-to-know basis. In order to not only provide information, but actual knowledge that supports sustained change, Knowledge Management (KM) is an essential part of this step. Effective sharing of information is achieved via an appropriate Knowledge Management System (KMS). A KMS is a system that supports an individual's own learning by providing appropriate knowledge in a timely manner and allows the sharing and storing of personal knowledge for later reviews and reuse (Alavi and Leidner, 2001).

*Review Strategy:* Lastly, after the technical and organizational impacts have been assessed a review of the overall strategy is to be done. In this review the positive and negative impacts of implemented strategies, tactics, methodologies and tools are assessed. The needed changes are documented in order to prepare the ground for

the next business transformation and organizational change effort (Kotter, 1995, Pugh, 2007).

### Practice Implications

In this paper we have presented a generic and comprehensive BT&OC process framework designed as a basis for implementing major ICT projects as part of an organizational change strategy. This integrative framework goes further than previous attempts, which by the nature of their design do not provide sufficient balance between technical (transformational) and corresponding organizational (soft) issues. Managers in all types of organizations can use and adapt this blueprint to their specific contingency to effectively guide their planning and implementation of major ICT projects. It provides a chronological checklist that ensures that proper attention is paid to the right activity at the right point in time.

### Research Implications

The integrating process framework brings together research from both technical and organizational perspectives. This will enable researchers to understand how each perspective relates to the other and contributes to organizational performance as a whole. Hence it will enable ICT and management research to address the risk that emphasizing a limited number of perspectives or factors may compromise the others, and as a result may inadvertently compromise the performance of the new ICT project, the organization, or both.

The framework, however, needs practical validation. For example, to what extent is it compatible with ITIL and other already existing ICT Management approaches? This identifies an avenue for further research, plus identifying limitations that the proposed framework requires rigorous empirical validation to enhance its legitimacy.

## Conclusions

Existing frameworks and models exist but do not appropriately link technical, innovation and organizational implementation. In this paper the identified best practices in business transformation and organizational change have been obtained from peer reviewed sources and have successfully been used in companies and organizations all over the world. Bearing in mind the unique situation of ICT processes, the differences between implementers as well as users and how ICT affects the organization overall, a conceptual framework for business transformation and organizational

change was developed to fill the gap in the literature. The various constructs in the framework do not only stem from research in ICT environments, but from change projects relating to all areas of business. In the context of this paper the framework was developed specifically for implementation of ICT projects, such as the ITIL approach, but in all likelihood its application can be much broader in terms of the scope of change projects. In the ICT domain, implementation involves mobilising the technical implications and enhancing them with matching best practices from the field of organizational change.

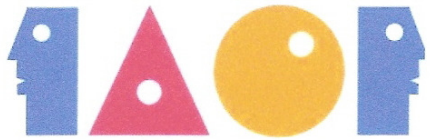
## References

- Alavi, M., & Leidner, D. E. (2001). Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS quarterly*, 107-136.
- Bansal, P. (2003). From issues to actions: The importance of individual concerns and organizational values in responding to natural environmental issues. *Organization Science*, 14(5), 510-527.
- Beck, R. N. (1987). Visions, values, and strategies: changing attitudes and culture. *The Academy of Management Executive*, 1(1), 33-41.
- Beckhard, R., & Harris, R. T. (1977). *Organizational transitions: Managing complex change*: Addison-Wesley Reading, MA.
- Blackburn, R., & Rosen, B. (1993). Total quality and human resources management: lessons learned from Baldrige award-winning companies. *The Academy of Management Executive*, 7(3), 49-66.
- Bridges, W., & Mitchell, S. (2000). Leading transition: A new model for change. *Leader to Leader*, 16(3), 30-36.
- Cameron, E., & Green, M. (2012). *Making Sense of Change Management: A Complete Guide to the Models Tools and Techniques of Organizational Change*: Buy now from Kogan Page.
- Camp, R. C., & Camp Robert, C. (1989). *Benchmarking: the search for industry best practices that lead to superior performance*.
- Carnall, C. (1990). *Managing change in organizations*: Prentice Hall 1 (New York).
- Crossan, M. M., & Apaydin, M. (2010). A Multi-Dimensional Framework of Organizational Innovation: A Systematic Review of the Literature. *Journal of Management Studies*, 47(6), 1154-1191.

- Davenport, T. H. (2005). *Thinking for a living: how to get better performances and results from knowledge workers*: Harvard Business Press.
- Davidson, W. H. (1993). Beyond re-engineering: the three phases of business transformation. *IBM Systems Journal*, 32(1), 485-499.
- Hammer, M., & Champy, J. (1993). *Re-engineering the corporation: A manifesto for business revolution*. Business Horizons, 36(5), 90-91.
- Handfield, R., & Ghosh, S. (1994). Creating a quality culture through organizational change: a case analysis. *Journal of International Marketing*, 7-36.
- Harris, L. C., & Crane, A. (2002). The greening of organizational culture: Management views on the depth, degree and diffusion of change. *Journal of Organizational Change Management*, 15(3), 214-234.
- Herzberg, F. (1993). *The motivation to work*: Transaction Publishers.
- Huang, S.-J., Wu, M.-S., & Chen, L.-W. (2012). Critical success factors in aligning IT and business objectives: A Delphi study. *Total Quality Management & Business Excellence*, 24(9-10), 1219-1240.
- Iden, J., & Langeland, L. (2010). Setting the Stage for a Successful ITIL Adoption: A Delphi Study of IT Experts in the Norwegian Armed Forces. *Information Systems Management*, 27(2), 103-112.
- Jassawalla, A. R., & Sashittal, H. C. (2002). Cultures that support product-innovation processes. *The Academy of Management Executive*, 16(3), 42-54.
- Kaplan, R. S., Norton, D. P., & Horvóth, P. (1996). *The balanced scorecard* (Vol. 6): Harvard Business School Press Boston.
- Kotter, J. P. (1995). *Leading change: Why transformation efforts fail*. Harvard business review, 73(2), 59-67.
- Kotter, J. P. (1996). *Leading change*: Harvard Business Press.
- Manley, J. E. (2000). *Negotiating quality: Total quality management and the complexities of transforming professional organizations*. Paper presented at the Sociological Forum.
- McCarthy, D., & Blumenthal, D. (2006). *Stories from the sharp end: case studies in safety improvement*. Milbank Quarterly, 84(1), 165-200.
- Molnar, E., & Mulvihill, P. R. (2003). Sustainability-focused organizational learning: recent experiences and new challenges. *Journal of Environmental Planning and Management*, 46(2), 167-176.
- Mumford, E., & Beekman, G. (1994). *Tools for change and progress*. CSG, Lleiden.
- Neely, A. (1999). The performance measurement revolution: why now and what next? *International Journal of Operations & Production Management*, 19(2), 205-228.
- Neely, A., Adams, C., & Crowe, P. (2001). The performance prism in practice. *Measuring Business Excellence*, 5(2), 6-13.
- O'Neill, M. B. A. (2011). *Executive coaching with backbone and heart: A systems approach to engaging leaders with their challenges*: Wiley. com.



- Orlikowski, W. J., & Barley, S. R. (2001). Technology and institutions: what can research on information technology and research on organizations learn from each other? *MIS quarterly*, 25(2), 145-165.
- Orlikowski, W. J., & Yates, J. (2006). ICT and Organizational Change A Commentary. *The Journal of Applied Behavioral Science*, 42(1), 127-134.
- Pande, P., Neuman, R. P., & Cavanagh, R. R. (2000). *The six sigma way: how Ge, Motora and other top companies are honing their performance* (Vol. 67): Recherche.
- Pollard, C., & Cater-Steel, A. (2009). Justifications, Strategies, and Critical Success Factors in Successful ITIL Implementations in U.S. and Australian Companies: An Exploratory Study. *Information Systems Management*, 26(2), 164-175.
- Pugh, L. (2007). *Change management in information services*: Ashgate Publishing, Ltd.
- Sauer, C., Yetton, P. W., & Alexander, L. (1997). *Steps to the future: fresh thinking on the management of IT-based organizational transformation*: Jossey-Bass Inc., Publishers.
- Schein, E. H. (1999). *The corporate culture survival guide*.
- Senge, P. M. (1999). *The dance of change: The challenges to sustaining momentum in a learning organization*: Random House Digital, Inc.
- Stopford, J. M., & Baden - Fuller, C. W. (1994). Creating corporate entrepreneurship. *Strategic management journal*, 15(7), 521-536.
- Tuckman, B. W. (1965). Developmental sequence in small groups. *Psychological bulletin*, 63(6), 384.
- Tuckman, B. W., & Jensen, M. A. C. (1977). Stages of small-group development revisited. *Group & Organization Management*, 2(4), 419-427.
- van Reijssen, J., Helms, R., Batenburg, R., & Foorthuis, R. (2014). The impact of knowledge management and social capital on dynamic capability in organizations. *Knowledge Management Research & Practice*.
- Weinberg, G. M. (1997). *Quality software management. Vol. 4, Anticipating change*: Dorset House Publishing Company, Incorporated.
- Willard, B. (2009). *The Sustainability Champion's Guidebook: How to Transform Your Company*: New Society Publishers.
- Williams, M. D., & Williams, J. (2007). A change management approach to evaluating ICT investment initiatives. *Journal of enterprise information management*, 20(1), 32-50.



EMPIRICAL STUDY ON THE RELATIONSHIP BETWEEN COFFEE TASTING QUALITY AND RECREATION SPECIALIZATION, PRODUCT INVOLVEMENT, AND COUNTRY OF ORIGIN IMAGE

Yueh-hsin Wu

Dept. Industrial Engineering and Management  
Cheng Shiu University, Taiwan, R.O.C  
simonwu9987@gmail.com

Ya-Hui Kuo

Dept. of Business Administration  
Cheng Shiu University, Taiwan, R.O.C  
green@csu.edu.tw

Chih-Yun Yang

Dept. of Hospitality and M.I.C.E. Marketing Management  
National Kaohsiung University of Hospitality and Tourism, Taiwan, R.O.C  
susanyang0418@yahoo.com

Abstract

For modern people, drinking coffee is part of their lifestyle, as coffee tasting has become a synonym for leisure. In previous studies, most of the research on recreation specialization targeted the outdoor recreational activities for market research, but little work had been done on the indoor recreational activities. In this study we select coffee tasting from among other recreational activities as the research subject for investigating the involvement of coffee drinkers in coffee tasting and coffee products, and for testing whether their involvement may affect country of origin image of coffee products. This research is supplemented by questionnaire survey. The participants in the survey are members of the coffee association who have regarded coffee tasting to be their main recreational activity. 890 questionnaires are issued, from which 302 are collected, with 288 questionnaires considered as effective samples after the deletion of 14 invalid samples. The research results show that the level of product involvement will be increased if the recreational specialization of coffee tasting is augmented, and that the cognition of country of origin image for coffee products will be improved if coffee drinkers' recreation specialization and product involvement are augmented.

Keywords: Coffee, Recreation specialization, Product involvement, Country of origin image

## Introduction

Coffee, cocoa, and tea are the three most popular leisure drinks in the world. Coffee beans are the second most important bulk commodity following crude oil. Under the globalization trend, drinking coffee has become a daily habit for the majority of modern people. In recent years, there is a growing demand for various recreational activities, as people turn to recreational activities as a way to reduce work pressure (Westmen et al., 2001). More and more people have found coffee tasting to be their main recreational activity. Part of the reasons for the increasingly popularity of coffee tasting is because this kind of creational activity can help people liberate their work pressure, and at the same time, coffee tasting has also become an important social event. Furthermore, many people even boast coffee tasting habits as a symbol of personal taste.

The prevalence of coffee and the coffee tasting culture has gone through several hundred years of development and evolution. Factors such as coffee variety, produced region, year of product, baking techniques, preservation and grinding method, as well as selection method, all have an influence in determining the final flavor of coffee products. Nowadays, many related books and articles introducing coffee tasting are available on the market, which allow people to easily understand coffee drinking and brewing methods. In the past, most of the studies on recreation specialization were based on outdoor activities, while little research work had been done on indoor recreational activities. From all recreational activities, this study has chosen coffee tasting as our research topic for investigating the involvement of coffee drinkers in coffee tasting and coffee products, and also for testing whether their involvement may affect country of origin image of coffee products.

## Literature Review

### *Recreation Specialization*

The theory of recreation specialization was first introduced from Bryan in 1977. The term “recreation specialization” refers to the continuous upgrading of consumer involvement from general recreation with no specific purposes at the beginning to become highly interested in a specific activity, and then getting highly involved in such recreation activity. This gradual process corresponds with continued changes in habitual behaviors of the consumers (Bryan, 1977). The majority of subsequent researchers recognized Bryan’s definition, concept, and action-oriented research results.

However, some scholars suggested that the recreation specialization theory proposed by Bryan only covered cognitive aspects and behavioral aspects, lacking consideration on emotional aspects (McIntyre and Pigram, 1992). Thus, these scholars proposed other variables, such as centrality to living style and continuous involvement as additional measurement scales of recreation specialization (Bricker and Kerstetter, 2000). In this study, we have selected coffee tasting from among other types of recreational activity for investigating whether increase in recreation specialization will bring about more refinement in coffee tasting, such that coffee drinkers will further produce special preferences for space and utensils in coffee tasting.

### *Level of Involvement*

Krugman (1965) extended the concept of involvement to the field of marketing, which formed the basis of his consumer behavior research. In his work, he believed that if the consumers’ attention to information, products, services, or demand is changed, their involvement or approach

will also be different (Laurent and Kapferer, 1985; Schiffman and Kanuk, 2000; Blackwell, Miniard and Engel, 2001). In exploring the level of consumer involvement in coffee products, we use the involvement construct of Zaichkowsky (1985) for investigating the level of involvement of coffee drinkers in coffee products, and testing whether the degree of consumer involvement will have any bearing on the coffee drinkers' attitude towards various coffee products.

### *Country of Origin Image*

Country of origin image is defined as consumers' subjective impression with respect to the country of manufacture of specific products, for which the consumer's cognition, attitude or purchase intention toward the products originating from that country will be affected (Nagashima, 1970; Han, 1989). Country of origin image of consumers is influenced by the Halo Effect and Summary Effect, which determine consumers' willingness and evaluation result for specific products (Nagashima, 1970; Parameswaran and Pisharodi, 2002). In summary, we propose that, with the enhancement of the level of specialization of coffee tasting and the product involvement of coffee drinkers, they will start to try out different kinds of coffee from different countries. In the process, they also begin to produce preferences for a particular coffee flavor originating from a particular country. The degree of involvement in coffee products will affect country of origin image by the coffee drinkers.

### *Discussion over Recreation Specialization, Product Involvement, and Country of Origin Image*

From previous research results (Bryan, 1977; Virden and Schreyer, 1988), it can be inferred that if the recreation specialization of coffee tasting is augmented, coffee drinkers will likely develop special preferences for coffee tasting settings, so

they start to actively participate in related tasting activities and collect information concerning coffee varieties, country of origin of coffee products, etc. augmenting their level of involvement in coffee products. Thus, hypothesis 1 is set as follows:

*H1: The level of specialization in coffee tasting will have significant positive effect on the product involvement of coffee drinkers.*

In addition, if the level of recreation specialization in coffee tasting is augmented, country of origin image of coffee products will be affected (McIntyre and Pigram, 1992). Thus, it can be inferred that, if the coffee tasting specialization is enhanced, coffee drinkers will be more likely to accept different coffee from different countries. However, after people have gained more knowledge on coffee making, and after they have tried different coffee from different countries, coffee drinkers will develop personal liking for certain kinds of coffee from specific countries. Thus, country of origin image for certain coffee products will be changed, so hypothesis 2 is set as follows:

*H2: The level of specialization in coffee tasting will have significant influence on country of origin image of coffee products.*

From various coffee tasting activities, coffee drinkers may develop special interest in the process of coffee tasting, so that they begin to collect related information of coffee products. Because coffee growing is determined by many special factors that cannot be replicated, such as climate, soil, water, etc, coffee will have different flavors when planted and baked in different countries, even by using the same kind of coffee beans. However, if coffee drinkers have preference for roasted coffee from certain countries, their involvement will have positive influence on country of origin image of coffee products (Ahmed,

d'Astous and Lemire, 1997; Lin and Chen, 2006). From the above reasons, hypothesis 3 is set as follows:

*H3: The level of product involvement of coffee drinkers will have significant impact on country of origin image of coffee products.*

### Research Methodology

In this study, our research methodology has taken reference to related literature, and then our questionnaire is designed to suit research needs. The questionnaire is mainly composed of four parts. The first part is to measure the level of specialization of coffee drinkers, with reference to the recreational specialization measurement index developed by McIntyre and Pigram (1992), with 21 questions; the second part relates to involvement dimensions. It is based on the modified measurement scale proposed by Zaichkowsky (1985), with 8 questions; the third part relates to country of origin image, which is based on the analysis of general attributes of country, general attributes of product, and specific attributes of product of Parameswaran and Pisharodi (2002), with 17 questions after modification; the fourth part covers the basic personal data of survey participants, including gender, age, marital status, education level, profession, and monthly disposable income, with 6 questions. In all, a total of 50 questions are selected for the formal questionnaire. The overall reliability of the questionnaire is 0.817, so this choice of questions is considered good quality.

### Data Analysis

#### *Analyzing the Sample Structure*

In this study, our main purpose is to explore the relationship between “specialization level” in coffee tasting and “product involvement”, so we choose coffee drinkers who have regarded coffee tasting as

their main recreational activity. Thus, we use members of the coffee tasting association as research samples. Sample data are collected with paper based questionnaires. A total of 890 questionnaires are distributed, from which 302 are collected with a return rate of 34%. 288 (91.8%) are considered effective samples after the deletion of 14 invalid samples (8.1%). The background information of survey participants are shown in Table 1.

#### *Analyzing the Relationship between Recreation Specialization and Product Involvement*

Regression analysis is used to test Hypothesis 1 with “product involvement” as the dependent variable. The results show that the relationship between “recreation specialization” and “product involvement” is significantly positive, so Hypothesis 1 is substantiated, that means “specialization level” will have significant impact over “product involvement”, showing significant positive influence. Please refer to Table 2 ( $\Delta R^2 = .367, P < .01$ ).

#### *Analyzing the Relationship between Recreation Specialization and Country of Origin Image*

Hierarchical regression is used to test Hypothesis 2 using “country of origin image” (including country image, product image and environmental background) as dependent variables. The demographic data are used as control variables, the results of model 2 analysis show that significant positive correlation exists between “recreation specialization” and “origin image”, so Hypothesis 2 is substantiated, that means “recreation specialization” has a significant impact over “country of origin image”, showing significant positive influence. Please refer to Table 3 ( $\Delta R^2 = .156, P < .01$ ).

*Analyzing the Relationship between Product Involvement and Country of Origin Image*

Hierarchical regression is used to test Hypotheses 3 using three dimensions of “country of origin image” as dependent variables, namely country image, product

image, and environmental background. The analysis results show that Hypothesis 3 is substantiated. Please refer to Table 4 ( $\Delta R^2 = .133, P < .001$ ).

Table 1. Distribution of Sample Data

Variable name		Times	Percentage (%)	Variable name		Times	Percentage (%)
Gender	male	165	57.2	Marital status	married	265	92
	female	123	42.8		single	25	8
Age	under 25	21	3.3	Education	Vocational school	23	7.9
	26-35	65	25.7		University	213	73.9
	36-45	93	50.2		Masters	46	15.9
	above 46	109	20.8		Phd	6	2.3
Profession	service sector	86	29.9	Monthly disposable income	200USD	13	4.6
	civil servant	123	42.7		400USD	56	19.4
	manufacturing	27	9.3		600USD	113	39.3
	teaching	45	15.6		800USD	59	20.4
	freelance	7	2.5		1000USD	47	16.3
				D			

Table 2. Hierarchical Regression between Recreation Specialization and Product Involvement

Dependent variable:	Product involvement	
Independent variables:	Model 1	Model 2
Control variables	B	B
Gender	.053	-.003
Age	-.043	-.007
Marital status	.113	.084
Education	-.032	.023
Profession	.032	-.056
Monthly disposable income	.038	-.064
Predictor variables:		
Importance of activities		.272***

Skills and knowledge in coffee tasting		-.092
Coffee tasting setting		.264***
Egocentricity		.283***
R2	.023	.376
ΔR2	.022	.367
F Change	1.131	43.675
Sig. of F	.354	.004**

Note: \*p< .05, \*\*p< .01, and \*\*\*p< .001.

Table 3. Correlation between Recreation Specialization and Country of Origin Image using Hierarchical Regression

Dependent variables	Country image		Product image		Background environment		Country of origin image	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Independent variables:								
Control variables	β	β	β	β	β	β	β	β
Gender	-.041	-.064	.013	-.003	-.005	-.049	-.017	-.048
Age	-.078	-.053	-.016	.003	.009	-.003	-.050	-.023
Marital status	.089	.074	.048	.032	.018	.003	.081	.052
Education	.063	.082	.018	.062	-.117	-.079	.006	.051
Profession	.123	.051	.119	.079	-.039	-.073	.109	.049
Monthly disposable income	.1108	.089	.039	.003	-.078	-.131	.051	-.012
Predictor Variables:								
Importance of activities		.101		.176*		.293*		.232**
Skills and knowledge in coffee tasting		-.099		-.181*		.012		-.139
Coffee tasting setting		.178**		.192**		.048		.198**
Egocentricity		.237**		.176*		-.076		.187*
R2	.042	.178	.021	.149	.024	.083	.023	.175
ΔR2	.042	.129	.021	.127	.024	.060	.023	.156
F Change	2.358	12.542	1.212	11.691	1.424	5.018	1.210	14.787
Sig. of F	.024	.002**	.300	.001**	.214	.001*	.310	.003**

Note: \*p< .05, \*\*p< .01.

Table 4. Correlations between Product Involvement and Country of Origin Image using Hierarchical Regression

Dependent variables	Country image		Product image		Environmental background		Country of origin image	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Independent variables								
Control variables	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
Gender	-.042	-.064	.009	-.009	-.006	.006	-.017	-.037
Age	-.080	-.067	-.019	-.008	.010	.010	-.044	-.033
Marital status	.096	.045	.051	.008	.023	.022	.078	.031
Education	.057	.073	.021	.035	-.120	-.120	.005	.020
Profession	.111	.099	.124	.114	-.035	-.035	.106	.095
Monthly disposable income	.102	.085	.040	.026	-.074	-.074	.048	.033
Predictor variables								
Product involvement		.408**		.342**		.006		.368**
R2	.044	.207	.022	.137	.026	.026	.022	.155
$\Delta R^2$	.044	.163	.022	.115	.026	.000	.022	.133
F Change	2.469	65.354	1.212	42.321	1.424	.010	1.210	49.956
Sig. of F	.024	.018*	.300	.012*	.205	.919	.301	.009**

Note: \*p <.05, \*\*p < .01, \*\*\*p <.001.

### Conclusions, Recommendations and Limitations

In this study our main purpose is to explore the correlation between “coffee tasting specialization”, “product involvement”, and “country of origin image”. The results of this research show that the level of specialization in coffee tasting has significant positive impact on the degree of product involvement. If the specialization in coffee tasting is augmented, more attention will be generated on coffee tasting, and coffee drinkers will develop special preferences for a particular coffee tasting setting, so they will start to collect related information with regard to coffee products. Thus, if “product involvement” is augmented, “recreation specialization” will

also be enhanced, so coffee drinkers will be more refined in the coffee tasting and more inclined to select a particular coffee tasting setting. Also, the involvement of coffee drinkers in coffee products will be increased. Furthermore, it is proven that the relationship between “recreation specialization” and “country of origin image” for coffee products is significantly positive, that means if the level of specialization in coffee tasting is augmented, coffee drinkers will have personal preferences for coffee products originated from a specific country, and their country image and product image for particular coffee products will be improved correspondingly.

McIntyre and Pigram (1992) confirmed that the level of specialization may



cause changes in individual consumer's behavior. Besides, our research shows that coffee drinkers' "involvement in coffee products" has significant positive correlation with "country of origin image", that means if coffee drinkers are getting more involved with coffee products, the country of origin image of coffee products will be improved. However, our research results contradict with the conclusions of Ahmed et al. (1997), in which the scholars believed that "level of product involvement" and "country of origin image" is an inverse relationship. Since coffee produced in different countries carry different flavors, we suggests that coffee drinkers will likely develop special preferences for specific coffee flavors in the process of coffee tasting, so they start to collect related information with regard to the coffee originated from specific countries. For example, they start to understand the climate, soil conditions, and geographical locations of specific countries, so that their interest in coffee products will help create a positive country of origin image for particular coffee products.

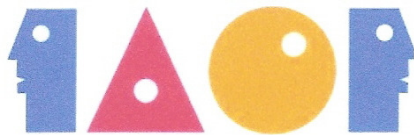
Summing up the above findings, we can see that if the level of specialization

and product involvement in the coffee tasting are augmented, coffee drinkers' "country of origin image" for particular coffee products will be improved. Thus, we suggest that coffee producers not only have to host regular coffee tasting activities to enhance coffee drinkers' recreation specialization and product involvement, they also have to pay special attention to the selection of venues and the overall atmosphere of coffee tasting when they plan coffee tasting activities. Given considerable improvements in the overall layout of exhibition and background music, coupled with the culture, humanities, and folk customs, coffee drinkers can feel the atmosphere of the coffee producing country. These promotional ideas can strengthen consumers' product impression, and also allow coffee drinkers to feel at home facing the culture of the coffee producing country. Through promotional activities, coffee drinkers will gain deeper understanding with regard to coffee producing countries, so the country of origin image will be further enhanced. Finally, since coffee tasting is a very subjective idea, perhaps in the future, more in-depth research could be supplemented with personal interviews, so that new perspectives may be discovered in the process.

### References

- Ahmed, Sadrudin A., Alain d'Astous, & Simon Lemire 1997. Country-of-origin effects in the U.S. and Canada: Implications for the marketing of products made in Mexico. *Journal of International Consumer Marketing*, 10: 73-92.
- Baron, R. M., & Kenny, D. A. 1986. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6): 1173-1182.
- Blackwell, D. R., Miniard, P. W., & Engel, J. F. 2001. *Consumer Behavior*. Harcourt, Inc.
- Bryan, H. 1977. Leisure value systems and recreational specialization: The case of trout fishermen. *Journal of Leisure Research*, 9(3): 174-187.
- Darling, J. R. 1981. The competitive marketplace abroad: A comparative study. *Columbia Journal of World Business*, 16(3): 53-62.
- Han, C. M. 1989. Country image: Halo or summary construct. *Journal of Marketing Research*, 26(22): 222-229.

- Krugman, H. E. 1965. The impact of television advertising: Learning without involvement. *Public Opinion Quarterly*, 29(3): 349-356.
- Laurent, G. A., & Kapferer, J. J. 1985. Measuring consumer involvement profiles. *Journal of Marketing Research*, 22(1): 41-53.
- Lin, L. Y., & Chen, C. S. 2006. The influence of the country-of-origin image, product knowledge and product involvement on consumer purchase decisions: An empirical study of insurance and catering services in Taiwan. *Journal of Consumer Marketing*, 23(5): 248-265.
- McIntyre, N., & Pigram, J. J. 1992. Recreation specialization reexamined: The case of vehicle-based campers. *Leisure Sciences*, 14(1): 3-15.
- Nagashima, A. 1970. A comparison of Japan and U.S. attitudes toward foreign products. *Journal of Marketing*, 34(1): 68-74
- Parameswaran, R., & Pisharodi, R. M. 2002. Assimilation effects in country image research. *International Marketing Review*, 19(3): 259-278.
- Schiffman, L. G., & Kanuk, L. L. 2000. *Consumer Behavior*. New York: Prentice Hall Inc.
- Virden, R. J., & Schreyer, R. 1988. Recreation specialization as an indicator of environmental preference. *Environment and Behavior*, 20(6): 721-739.
- Westman, M., & Etzion, D. 2001. The impact of vacation and job stress on burnout and absenteeism. *Psychology & Health*, 16(5): 595-606.
- Zaichkowsky, J. L. 1985. Measuring the involvement construct. *Journal of Consumer Research*, 12(3): 341-452.



## MODEL OF STATE-OWNED ENTERPRISE (SOEs) PRIVATISATION THROUGH NEW COMMON STOCK AND ITS IMPLICATION TOWARDS FINANCIAL PERFORMANCE PERIOD 2005-2012

Ibnu Khajar  
Department of Economics  
Sultan Agung Islamic University (UNISSULA), Indonesia  
e-mail: ibnukhajar@unissula.ac.id

### Abstract

Megginson, Nash, and Randenborgh, 1994 confirmed that there had been an improved financial performance. The performance of State-owned enterprise (SOEs) was influenced by the basic model of privatization. This research was intended to acknowledge and analyze; how was the model of privatization of State-Owned Enterprises (SOEs) in Indonesia?; what was the new common stock or divestment?; how was the price of stock of IPO in SOEs in Indonesia?; What were over-value or under-value?; and how was the financial performance (return on sales, return on equity) of SOEs in Indonesia pre-privatization and post - privatization? The research employed paired sample T Tes of statistic analysis. It aimed to seek for the difference of the financial performance pre-privatization and post-privatization. The research showed that (1) All SOEs were privatized by issuing new stock; (2) four privatized SOEs experienced under-value, and the other one had over-value; (3) two SOEs had better financial performance at post-privatization compared to pre-privatization.

Keywords: IPO, privatization, over and undervalue, return on sales and return on equity.

### Introduction

State-Owned enterprises (SOEs) (in Indonesia namely BUMN) is a business entity in which partly or all ownership owned by government of Republic of Indonesia (Indonesian Language Encyclopedia). Government of Indonesia has made some fundamental regulation change related to ownership of some SOEs in Indonesia. It means that the shares can be owned by public.

Critics appeared related to the existing monopoly or certain regulations for supportive competition (Act. No. 5 1999). The government was considered to be business actors as well as regulator. Therefore, privatization was meant to cope with such problem. It was meant to improve efficiency and also profitability. Currently, there were thirteen industrial companies which have been privatized (listed in Table 1.2)

Table 1. Privatized BUMN PERIOD 2005 – 2011

NO	INDUSTRY	LISTING
1	PT Wijaya Karya (WIKA)	29-10-2007
2	PT Jasa Marga (JSMR)	12-11-2007
3	PT Bank BTN (BBTN)	17-12-2009
4	PT Krakatau Steel (KRAS)	10-11-2010
5	PT Garuda Indonesia (GIAA)	11-02-2011

Source: BUMN (SOEs) on-line Directory

SOEs, either a business or non-business one, have similar features with other kinds of companies. Their success on achieving the objective is mostly influenced by their internal conditions such as marketing, production, resource, and capital. External factor also plays important role for the success of SOEs such as competition, macro economy, technology, and global issue. However, external factor has less influence irrespective of the type of the company either public or private sector. Meanwhile, the internal factor will be highly influenced by the change of company control from government to private sector. Megginson, Nash, and Randenborgh (1994) mentioned that State-owned enterprises (SOEs) often experienced loss. Mostly, they focused on maximizing the labours and developing remote areas. These enterprises were often unprofitable. However, due to their vision and mission which is non-market oriented, they tried to keep running. To overcome this challenge, government provided subsidies for inputs or all losses. In the long run, if this continuously happened, and these SOEs were unprofitable, this became burden for government. To solve this problem, privatization and divestment were considered to be done. Having the companies privatized, it was intended to improve the performance of the enterprises. It was expected that the management of the companies could be controlled better by non-government bodies. The study showed that the performance of companies were improved after the privatization.

The concept of privatization was focused on the interest of the company for its development. To develop the company, capital was required. One of the ways to have the capital was through gaining new stock. Privatization model in the form of divestment only resulted on the transfer of stock from government to private sector. It is due to the stock purchasing would be delivered to APBN (Nation's Budget Revenue Expenditure) and would be used for yearly budgeting. In the short run, this became the treasury. However, in the long run, this would give APBN loss due to the less demand for deviden.

The existing amount of cash flow in the privatization is influenced by stock price in the primary market (IPO). There are two possibilities. First, the stock price is exceedingly cheap, namely underpricing. Second, it is too expensive called overpricing. Underpricing happens due to the less optimum of the budget gained from privatization. There are many factors influencing underpricing or overpricing at IPO. Febriana (2004) mentioned that underpricing is influenced by auditor reputation, underwriter, company age, solvency, and profitability. It has been known that privatized SOEs are those who have huge asset and reached decades of age.

#### Literature Review

##### *State-Owned Enterprises (SOE)*

State-owned enterprises (SOEs) is a business entity in which partly or all ownership owned by the government of Republic of Indonesia. The firm can be in the form of non-profit firm aimed to provide goods or services for community. Some SOEs in Indonesia, the government has significantly changed the ownership status. It means, the company stock can be owned for public. The purpose of this SOE is to give more contribution to national economy and the national cash flow, earn more profit, meet the need of society, stimulate business activities and give assistance and protection for small and survival enterprises.

### *Privatization and Divestment*

Privatization focuses on the property rights. Private sector has the right as the owner of the businesses. It means, the stock is sold in the domestic and international market, or the private placement (Team BEJ, 1996: 335-336). Privatization is often called denationalization. Kompas (24 March 2002) mentioned that:

Privatization is defined as the transfer of control of a company to management of the private owners. This means that the majority of the shares owners of the firms are changed. Hence, there is a government control change. The government has no longer become the actors, but as the regulators and policy makers. Then, the managers will be responsible to the new owners.

Privatizing BUMN means that the stock purchasing from the government to private sector (domestic or foreign)

The placement of the government stock is meant not only to earn profit for the sake of

Nations's Budget Revenue Expenditure (APBN), but also to improve the performance of the SOEs themselves, to accelerate good corporate governance, to open better access for international market, and transfer knowledge and best practice for SOEs, and also to have better work culture condition.

Meanwhile, divestment is the process of selling off a portion of a business unit or corporate asset (Harianto, Sudomo, 1998:779).

The last category of privatization is used by Indonesian government in May 1997 to privatize five SOEs. They are PT Semen Gresik, Indosat, Tin Mine, Telkom Indonesia, and PT Bank BNI 1946. These five SOEs shares were sold no more than 35% of the total shares (Team BEJ: 1996:341).

### *Go Public*

Public Offering or sometimes called Go Public or IPO (Initial Public Offering) is an activity of offering or other securities in which executed by the Issuer (the go public company) to the public based on certain procedures and regulations set by the Capital Market Law. Public Offerings include main activities. They are the initial period when the securities market are offered to investors by the capital owner and Issuer warrantor through appointed selling agents; allotment of shares that investors allocate order. This effects the number of available stock available such as recording stock (listings). That is when the stock is began to trade on the Exchange.

Companies that conduct public offering can gain several benefits. They can obtain relatively large funds and get them all at once. Usually, these funds are used to develop the business (expansion),

improve the capital structure and increase subsidiary participation or acquire other companies, pay off some debts, add capital, have relatively low cost of going public, have relatively easy process; and make the issuers easily well-known by the public (go public is a promotion media) for free. Besides beneficial for companies, public offerings also provide benefit for society to participate and have the company's shares and obtain various shareholder rights. The same opportunity will be given to the employees to participate in company's own shares.

#### *Overpricing and Underpricing of IPO*

Stock price of the initial offer is an indicator of the success of the IPO. If the number of shares offered remains steady, then the funds received from the IPO is largely determined by the initial price. There are two possibilities that could happen to the stock price after the offering. The IPO price is greater than that of the initial price traded on the secondary market. This share price condition is called overpricing. In contrast, if the price is lower than that of the secondary market, then the condition is called underpricing (Kusuma, 2001:61).

Underpricing is a condition that the stock price of the IPO is lower than that of the secondary market. Basically, the pricing share is determined by an agreement between the issuer with underwriter. Meanwhile, the stock price in the secondary market is the result of market mechanisms that is based on the existing supply and demand (Febriana, 2004:13-14). The phenomena of overpricing and underpricing are an interesting topic in the literature of finance. The condition should not occur because the IPO price should reflect all available information prior to the IPO issuers with underwriters while spreading information prospectus to various investors. Prospectus is information

about the issuer's financial and non-financial condition. According to Trisnawati (1999) prospectus information is one of the main information resources used by investors to decide whether they want to invest in the listed companies in the stock market.

#### *Company Performance*

Performance measurement is one of significant factors for a company. These measurements can be used to assess the success of the company and be a basis for planning the company's reward system (Secakusuma, 1997:8).

Kaplan and Norton (1992:14) have tried to measure the company's performance by considering four aspects. They are financial perspective, customer, process of internal business, and learning and development. The idea on balancing the measurement of the financial and non-financial aspects was then called Balanced Scorecard.

This research focused on the financial and operational performance such as how the performance of the State Owned Enterprises after the privatization and divestment. One indicator of financial performance is the level of profitability. This level showed whether the company's goal has been achieved or not. The better the financial performance is, the better for the shareholder. This condition will determine the stock price and the subsequent prosperity of the shareholders (maximizing stockholder wealth). Husnan (1998:336) stated that fundamental analyst tried to predict future stock prices. It was confirmed that there was a strong relations between the company's ability to generate profits with stock prices, the increase of profit and stock price. This means that there was a positive impact on stock prices.

#### *Theoretical Framework*

Particularly, enterprises, and generally, the industry, either as a profit-oriented business organization or as production agents are expected to always have a good performance. This research did not specifically discuss how to create good performance. However, it focused on comparing the financial performances of enterprises classified in State-Owned Enterprises (SOEs).

The performance measurement in this study referred to the work resulted by the work of Megginson, Nash, and Randenborgh (1994:422). It was stated that in assessing the performance of companies, two (2) proxies can be used. For instance, financial performance indicators of profitability aspects: (1) return on assets (ROA) which is the ratio of net income to total assets; and (2) return on equity (ROE), which is the ratio of net income to equity. Financial ratios are a fundamental variable in the study.

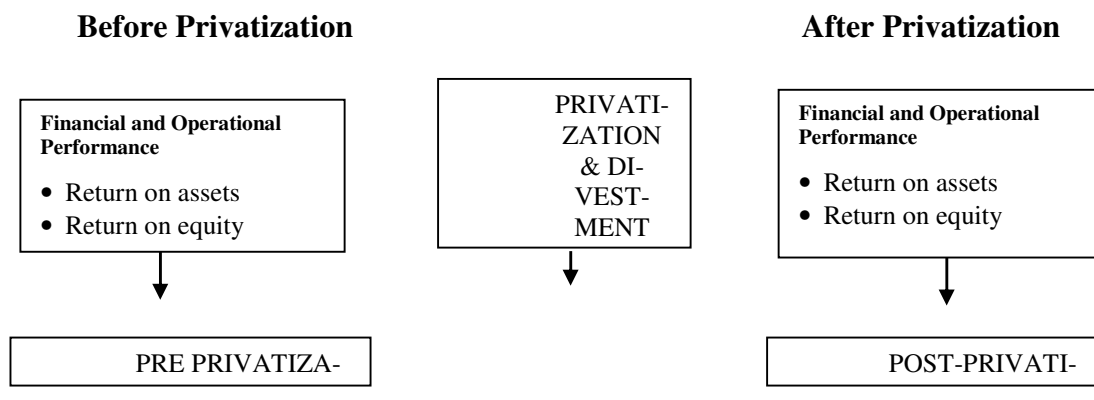


Figure 1. Conceptual Framework

## Research Methods

### *Types of Research*

This study is a causal research. Zukmun (1991) mentioned that the objective of such research is to identify causal relationship between variables, and to explain its relations. Hence, this study is also referred to an explanatory research which is aimed to explain the relationship between variables through hypothesis testing (Singarimbun, 1989:5).

### *Population and Sample*

The population of this study was all companies including in SOEs which

were classified as go-public companies. There were 170 companies. The sampling method used was purposive sampling. There were:

### *The Privatized SOEs period 2005 – 2012.*

The availability of the financial statements before and after two-year go public.

Based on the above criteria, there were 5 SOEs which have been privatized. They were T Wijaya Karya Tbk, PT Jasa Marga Tbk, PT Bank BTN Tbk, PT Krakatau Steel Tbk, and PT Garuda Indonesia Tbk.

### Data Collection Techniques

Primary and secondary data were used in this study. Documentation technique was employed to gather the data. Primary data was gathered by conducting interview with several officers of BAPEPAM and Jakarta Stock Exchange and other practitioners from capital market. Secondary data was obtained through written or printed data such as balance sheet, profit/loss, and other records on financial report from companies listed in the Jakarta Stock Exchange.

### Operational Definition of Variables

Every variable is operationally defined as follows (See Table 2.).

Return on Assets (ROA) is an indicator of financial performance of the profitability aspect. It measures how many net income in rupiah earned from one rupiah of company's sale. It is measured by comparing the net income and the total asset.

Return on Equity (ROE) is an indicator of financial performance of profitability aspect. It measures how many net income in rupiah earned from one rupiah of its own capital. The formulation of this measurement is the comparison of the net income and equity.

Table 2. Definition of Research Variable

NO	VARIABLE	CONCEPT	FORMULA	SCALE
1	Return on Sales (ROS)	an indicator of financial performance of the profitability aspect. It measures how many net income in rupiah earned from one rupiah of company's sale.	$ROS = \frac{\text{Net Income}}{\text{Sales}}$	Ratio
2	Return on Assets (ROA)	It is an indicator of financial performance of profitability aspect. It measures how many net income in rupiah earned from one rupiah of a company's asset	$ROA = \frac{\text{Net Income}}{\text{Total Assets}}$	Ratio

### Technical Analysis

Referring to the conceptual framework, there were financial ratios as the financial performance indicator; Return on Sales, Return on Assets, Return on Equity, Sales Efficiency, and Net Income Efficiency. Then, these indicators were assessed before and after the

privatization of the program. These ratios should be able to measure and analyze either qualitatively or quantitatively. The data gathered were processed using Statistical Product and Service Solutions (SPSS). The descriptive analysis was used to analyze and describe the data. Then, Paired Sample T test was employed. It



means that two similar samples were used but they were treated differently.

## Results And Discussion

### Results

#### *Model of SOEs Privatization period 2005-2012.*

Five SOEs that were privatized period 2005-2012 were PT Wijaya Karya Tbk, PT Jasa Marga Tbk, PT Bank BTN Tbk, PT Krakatau Steel Tbk, and PT Garuda Indonesia Tbk. There were some questions on the government policy of privatization whether they used the pattern of the issuance of new shares, or divestment. It

could also be possible that the government used both new shares issuance and divestment.

#### *Under and Over Value.*

Kusuma (2011: 65) calculated over and underpricing as follow:

$$\frac{(\text{Initial market price} - \text{Issue price})}{\text{Issue price}} \times 100\%$$

Table 3. illustrates the result of the fifth initial return calculation of the privatized SOEs period 2005 – 2012 based on the above formulation.

Table 3. Initial Return Calculation

No	EMITEN	LISTING	IPO PRICE (Rp)	INITIAL PRICE	IR (%)
1.	PT Wijaya Karya Tbk.	29-10-2007	420	560	33
2.	PT Jasa Marga Tbk.	12-11-2007	1700	2050	21
3.	PT Bank BTN Tbk.	17-12-2009	800	840	5
4.	PT Krakatau Steel Tbk.	10-11-2010	850	1270	49
5.	PT Garuda Indonesia Tbk.	11-02-2011	750	620	-17

Source: Processed data

#### *a). Under and Overvalue PT Wijaya Karya Tbk.*

Table 4. shows that the IR was 33%. It had a positive number. It means that the shares of PT Wijaya Karya IPO experienced undervalue. Issuers were at the unfavourable position because the IPO proceeds were less than that of they were supposed to be.

Investors who were successful in buying the shares at the time of the IPO which directly sold the shares in the primary market was ensured to have substantial gain about 33% in less than one month period. In general, the underwriters were also benefited from the shares because IPO shares that experienced undervalue also were also having oversubscriptions

(shares offered by the issuer in the IPO were less than the demand). The underwriters only took a little or no risk to buy the stocks which were not sold in the IPO.

#### *b). Under and Overvalue PT Jasa Marga Tbk.*

Table 4. shows that the IR was 21% meaning that it had a positive number than that of the shares of PT Jasa Marga when IPO experienced under value. Issuers in the unfavorable position because the IPO proceeds were less than they were supposed to be.

Investors who were able to buy shares at the time of the IPO, that were later, they sold the shares directly were ensured to have substantial gain of about

21% in less than 1 month. In general, the underwriters also benefited from a little more IPO shares that have also experienced oversubscriptions and undervalue (shares offered by the issuer in the IPO were less than the demand). The underwriters only took slightly risk or not at all to sell the unsold shares.

*c). Under and Overvalue of PT Bank BTN Tbk.*

Table 4. shows that IR was 5% due to the stock had a positive rate of PT Jasa Marga. The IPO underwent undervalue. Issuers were in the unfavorable position because the IPO proceeds were less than they were supposed to be.

Investors, who were able to buy shares at the time of the IPO, and later, in the primary market, they were able to sell their shares directly would have substantial gain of around 5% in less than 1 month. In general, the underwriters also benefited from a little more IPO shares that have also experienced oversubscriptions undervalue (shares offered by the issuer in the IPO were less than demand). The underwriters took only slightly risk or not at to buy unsold stock at IPO.

*d). Under and Over Value PT Krakatau Steel Tbk.*

Table 4. shows that the IR was 49%. It had a positive number than the shares of PT Krakatau Steel when IPO experienced under value. Issuers were in the unfavorable position because the IPO proceeds were less than they were supposed to be.

Investors, who were able to buy shares at the time of the IPO, and then later in the primary market were able to sell their shares directly, they received substantial gain of about 49% in less than 1 month. In general, the underwriters also benefited from a little more IPO shares

that have also experienced oversubscriptions undervalue (shares offered by the issuer in the IPO were less than the demand). The underwriters took a little risk or not at all to buy unsold stocks in the IPO.

*e). Under and Over Value PT Garuda Indonesia Tbk.*

Table 4. illustrates that the IR was -17%. Since it had a negative number which made the shares of PT Garuda Indonesia at the time of the IPO experienced overvalue. Issuers were in a better position because of the IPO proceeds were much more than they were supposed to be.

Investors, who were able to buy shares at the time of the IPO and then could sell directly on the primary market shares will certainly lose a lot of money (loss) at around 17% in less than 1 month. In general, the underwriters were also in a position to have no benefit from the IPO stocks which experienced overvalue and undersubscriptions (shares offered by the issuer in the IPO were more than the demand). The underwriter took the risk by buying the unsold shares in the IPO.

*Financial SOEs Performance*

Table 4. illustrates the overall financial performance of the five companies and their stock price whether they were over or undervalue 4.9.

*Discussion*

*State-owned Enterprises*

Based on the sample of the research, there was no SOEs that executed divestment. All of them issued new shares in the privatization. This condition was ideal since privatization was conducted to increase the capital. It did not mean to sell shares of ownership for the sake of the shortfall. If this happened, the equity of

the company in post-privatization (issuer) would have been bigger compared to that of pre-privatization and had bigger opportunity to run the company. For instance, PT Garuda used the budget from IPO to renew its armada such as buying new Air Bus or Boeing.

Three out of five SOEs in the research were found to have the profitability improvement seeing from the ROA condition after privatization. Meanwhile, the other two was found to have profitability decrease. They were PT Krakato Steel and PT Garuda. These were due to their inefficiency in running the business after the privatization. The budget resulted from IPO did not meet the expectation of the share holders. Seeing the ROE, the profitability level was found

to be worse. All SOEs, as the objects of the research, were found to have ROE decline. This condition showed that the budget resulted from the IPO was not efficiently used by privatized SOEs.

These findings were expected to be useful for interest bodies who have authority in dealing with state owned enterprises in Indonesia such as to evaluate and improve performance. It is undeniable that all companies face high competition. Nevertheless, some improvements could be made for better performance. In fact, during the privatization, all state-owned enterprises received funds from the public and were expected that the funds could be used for their competitiveness. Hence, they could face the competition in the market and have better performance.

Table 4. Summary of Financial Performance and Stock Price Of All Emiten

EMITEN	ROA (%)			ROE (%)			IR (%)
	before	After	Growth	before	After	Growth	
PT. Wijaya Karya, Tbk.	3,23	3,48	7,74	19,52	13,49	-30,89	33
PT. Jasa Marga, Tbk.	3,54	5,84	64,97	14,31	13,67	-4,47	21
PT. Bank BTN, Tbk.	1,06	1,21	14,15	16,38	1,21	-14,41	5
PT. Krakatau Steel, Tbk	3,68	2,40	-34,78	8,49	8,19	-3,53	49
PT. Garuda Indonesia, Tbk.	4,13	3,51	-15,01	18,90	8,19	-56,67	-17

The decline of performance will be worse since there will be parallel decrease of performance in the share price. The worse the performance is, the cheaper the price of the stock will be. It means that the value of the company will be cheaper and more open opportunities for other companies to take over the shares such as other more powerful parties like investors or foreign governments. It is known that SOEs usually operate in a strategic field due to its capacity to meet the needs of wider community. If it is taken over by foreigners, it means that community will be very dependent on them. In the long run, this condition is threatening Indone

sia. This could even endanger the integrity of the nation and the state.

#### *Overvalue and Undervalue SOEs*

Based on the sample of the research, most SOEs were privatized during the under-value condition. There were only one SOEs experiencing overvalue. It was PT Garuda Tbk. Four SOEs experienced under-value at IPO and was interpreted to be the loss for the issuer (government RI). This was due to the budget gained from the IPO was lower than that of the overvalue. Undervalue was interpreted as cheap purchasing stock. If the price of the stock increased, the IPO

budget would be higher and the issuer (government RI) could earn more.

This empirical evidence could be interpreted that the government of Indonesia, in the privatization process had offered cheap shares in the market. There were many factors influencing this condition. For instance, the condition of macro and micro economy. In the future, it is expected that the government will have conducted a research deeper prior to the privatization program. Hence, the IPO SOEs will not be undervalue.

#### *The Financial Performance Post-privatization*

At the post-privatization era, there were two out of five privatized state-owned enterprises experienced profitability (ROA) and was statistically significant. They were PT Jasa Marga and PT Bank BTN. Meanwhile, PT Wijaya Karya was found to have statistically insignificant increase. However, PT Krakatau Steel and PT Garuda Indonesia experienced statistically insignificant decline.

Having seen from the profitability (ROE), the five privatized SOEs seemed to be statistically insignificant in decline. The empirical evidence confirmed that there was relation between overvalue company with financial performance (ROE). The overvalue companies during the privatization had lower performance

(ROE) compared to those privatized company having undervalue.

#### Conclusions And Suggestions

##### *State-Owned Enterprises in Indonesia have been privatized in the period 2005-2011*

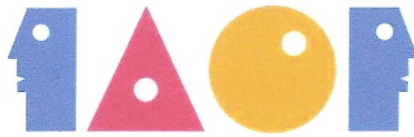
There were no company that has conducted divestment. This means that all companies issued new shares that have increased the equity after privatization. State-owned enterprises, which were privatized in 2005-2011, were mostly undervalue. It means that the issuers (government Indonesia) gained loss due to the IP budget was lower than it was supposed to be. Two State-owned Enterprises in which privatized in 2005-2011 had an improved financial performance (ROA) compared to the period before the privatization. Five State-Owned Enterprises were found to have financial performance (ROE) decline. However, it was found to be statistically insignificant. The greatest financial performance (ROA) decline happened when SOEs experienced over-value during the IPO.

In the future, the similar study is expected to be conducted by adding more financial performance indicators and period of research. It needs also to consider extreme economic condition such as financial crisis in 2008. This kind of condition also influences the company profitability to reflect its normal condition.

#### References

- Ancok, Djameludin. 1993. *Measuring Scale Technique*. Center for Population Studies, UGM, Yogyakarta.
- Bapepam, 1999. *Blueprint of The Indonesian Capital Market 2002-2004*. Ministry of Finance of the Republic of Indonesia. Jakarta.

- Block, Stanley B., and Geoffrey A. Hirt, 1987. *Foundations of Financial Management*, Fourt Edition, Homewood, Illinois 60430.
- Frigo, Mark I., and Kip R. Krumwiede, 2000, "The Balanced Scorecard", *Journal Strategic Finance*, January.
- Ghozali, Imam, and Castellan, 2002. *Non-Parametric Statistics*. Board Publisher of Diponegoro University, Semarang.
- Husnan, Suad, 1998. *Basics of Portfolio Theory and Securities Analysis*, UPP, AMP, YKPN, Yogyakarta.
- Jones, Charles P., 1996. *Invesments Analysis And Management*, John Wiley & Sons, INC., Canada.
- Joy, O. Maurice, 1983. *Introduction to Financial Management*, Third edition, Richard D. Irwin, Inc. Homewood, Illinois 60430.
- Kaplan, Robert S., and David P. Norton, 1992, "The Balanced Scorecard-Measures That Drive Performance", *Harvard Business Review*, January-February.
- 1996, "Using the Balanced Scorecard as a Strategic Management System", *Harvard Business Review*, January-February.
- 1996, *Balanced Scorecard*, Harvard Business School Press, Boston, Massachusetts.
- Megginson, William L., Robert C. Nash, and Matthias Vann Randenborgh, 1994. "The financial and Operating Performance of Newly Privatized Firms: an International Empirical Analysis", *The Journal of Finance*, Vol.XLIX, No.2, June, p.403-452.
- Santoso, Singgih, 2000. *SPSS Statistics Professional Data Processing*, Publisher PT Elex Media Komputindo, Gramedia Group, Jakarta.
- Secakusuma, Thomas, 1997, "Perspective of Internal Business Proevss in Balanced Scorecard", *Enterpreneurs*, No.06 TH XXVI JUNI.
- Singarimbun, M., and S. Effendi, 1989. *Survey Research Methodology*, , LP3ES, Jakarta.
- Zikmund, William G., 1991. *Business Research Methods*. Harcourt Brace Jovanovich, Inc., United States Of America.



U.S. BANKS: CAN THEY IMPROVE?  
*A DEMING ANALYSIS OF INTERNAL OPERATIONS*

Bryan Epps  
School of Business and Public Administration  
University of the District of Columbia  
Washington, DC, USA  
bryan.epps@udc.edu

Sergey Ivanov  
School of Business and Public Administration  
University of the District of Columbia  
Washington, DC, USA  
sivanov@udc.edu

Abstract

This organizational study has been conducted based on Deming's ideas and principles applied to a major U.S. bank. One of the authors has been employed by a major U.S. bank for over a number of years in a senior leadership role. The data collected has subsequently been analyzed by the authors, and presented in this paper as a way to improve internal organizational structures and operations applicable to all major banks in the United States, and worldwide.

Key Words: Organizational Improvement, Fear, Growth Strategies, Banking Industry, W. Edwards Deming, Elliott Jaques, Organizational Studies

Introduction

The financial collapse of 2008 had a devastating effect on the American and world economies. Such a collapse should never occur again. The purpose of this paper is to present an analysis of the internal structural issues within the major US banks, and offer strategies for improvement. This paper

shows how banks could improve performance, employee morale, and ultimately the shareholder value, by implementing numerous and systemic recommendations offered by this analysis.

Organizational Diseases

*Fear is One of the Deadly  
Diseases of Business*

W. Edwards Deming

*Analysis*

The first major issue in the U.S. banks is that fear is paralyzing the entire companies' performance from the top down. Deming (1992) calls fear one of the deadly diseases of business. "Deadly Diseases afflict most companies in the Western world... emphasis on short term profits; short-term thinking...[is] fed by fear of unfriendly takeover, and by push from bankers and owners for dividends" (p. 98).

Ivanov (2013, 2014) calls this business paradigm *feararchy*, arguing that it is impossible to perform well in such an adversarial internal environment.

U.S. banks, like most publicly traded companies, are shareholder driven. This disrupts the organizations for the following reasons. The CEOs and the Boards of Directors are appointees of the shareholders, and thus, make decisions based on the stock price. These decisions are based on short-term gains and not longer-term growth. The CEOs and the Boards of Directors fear that without results they would be replaced, and therefore, their decisions are mired and not focused on the growth of their companies.

*Recommendation*

Our first recommendation is to ignore the stock price and the shareholders to clearly make the best decisions for the long-term growth, associate sat-

isfaction and retention, training, effective product delivery to customers, innovation, and outstanding customer service.

Deming writes, "Part of America's industrial problems is the aim of its corporate managers. Most American executives think they are in the business to make money, rather than products and service, a company SHOULD become the world's most efficient provider of whatever product and service it offers. Once it becomes the world leader and continues to offer good products, profits follow." (1992, p. 99). Deming emphasizes the significance of quality of the product and service first and profits second. When companies focus on the product and service, training, customer service, innovation, associate satisfaction, and improvement are always the priority. According to Deming, emphasis on short-term profits will lead to long-term failure, which U.S. banks have demonstrated during the 2008 financial crash.

*Numbers Alone Destroy Companies*

Because most CEOs and Boards of Directors are gripped by fear of the stock market fluctuations, goals are set based on increases needed over the last year and released to the entire organization. "A publicly held company whose stock falls for any reason-- even for the long-range planning-- may be in fear of a takeover...Fear of unfriendly takeover may be the single most important obstacle to constancy of purpose" (Deming, 1992, p. 100).

The goals are a reflection of the fear Deming describes. It is fear that places emphasis on the short-term profits and not the long-term growth

and success of the company. This fear is what creates the goals that the bank branches receive, which are always a minimum of at least 10% or more over the numbers for the previous year, regardless of past performance.

### *Fear Impact on Employees*

Fear destroys associates in several ways:

- 1) burns them out & creates turn over.
- 2) associates are not loyal to companies because of the high stress level to produce.
- 3) associates cut corners to produce numbers instead of quality.
- 4) fear of not performing creates a stressful uninspired environment. Ivanov (2013, 2014) argues that only an inspired environment is conducive for high performance.
- 5) ridiculously high standards for customer service create fake smiles and fake friendliness.

### *Recommendation*

Such poor organizational system causes associates to have low morale, which impedes growth and good performance; while high and genuine associate morale is the best way to keep customers happy. "It is not enough that top management commit themselves for life to quality and productivity. They must know what it is that they are committed to-- that is, what they must do. These obligations cannot be delegated. Support is not enough: action is required" (Deming, 1992, p. 21).

District managers, who are in charge of multiple bank branches, should be required to help the branch. When they come for visits, it should be to serve, find things that could work better, and actively get involved to help, teach, and mentor. Instead, they often critique and bring morale down. It should be their job to energize and bring morale up.

District managers and managers should talk to associates with respect and inspiration, so employees may feel inspired. Lynch's research (1978, 2000) shows that dialogue of the psychology of inclusion effects people in a positive way and helps them. Conversely, psychology of exclusion is "dysfunctional dialogue...that occurs in a social context where others are seen as a threat" (Lynch, 2000, p. 5).

Because high level of fear starts at the top, it is trickled down to all levels of the organization, and impacts how district managers speak to bank employees. This behavior is unhealthy and diminishes morale. Harvey (1988) compares this dishonorable behavior to frogs in a swamp, "The tyranny of [bullfrogs] ... prevents humans from taking responsibility for the fog and mud and moss that make up the atmosphere of the swamp" (p. 40).

### *Fallacy of Multitasking*

One of the other major issues at U.S. banks (and we are sure it is an issue at other companies also) is the belief in the fallacy that multi-tasking works. Multi-tasking does not work. People are only capable of doing a small number of things great at the same time before they start dropping



the ball or missing deadlines or not getting the work completed on time.

Our performance work suffers the more we take on at once. Companies put high value into those who can multitask though. And, lots of people have car crashes daily trying to text message and drive at the same time! People are having major accidents at work trying to juggle multiple tasks at once, unsuccessfully.

#### *Recommendation*

Work should be delegated properly, planned smartly with achievable deadlines, and appropriate amount of resources and staff members to do the work. Taylor (1911), Jaques (1990, 2002), Deming (1992, 1993), Ivanov (2013), and others argue that work must be studied scientifically so that proper resources and timelines be applied and expected from the right-fit employees in the right-fit jobs.

#### *“The Wrong Way”*

“It is a common supposition that quality and productivity can be achieved by putting on the screws ... A new book explains how to “motivate your people to work at top speed! Beat horses, and they will run faster-- for a while” (Deming, 1992, p. 21-22). Having associates multitask is the equivalent to beating horses. Eventually, they will slow down and not perform.

#### *Fear Perpetuated*

Why do these issues continue and not get corrected? Why does each level of management trickle down fear that hinders growth and productivity at each level?

Milgram (1974) writes, “Ordinary people, simply doing their jobs, and without any particular hostility on their part, can become agents in a terrible destructive process. Moreover, even when the destructive effects of their work become patently clear, and they are asked to carry out actions incompatible with fundamental standards of morality, relatively few people have the resources needed to resist authority” (p. 6).

Milgram, in his famous research experiments, clearly demonstrates that regardless of how destructive the work environment might be, most people will perpetuate the behavior and actions keeping the situation oppressive because the above level of management has set the precedent.

#### *Recommendation*

There is no solution to the Milgram’s dilemma. A fantasy way to break this pattern is for enough people to stand up and break the process of oppression. This is not easy and does not happen in companies. According to Harvey, oppression can be overcome “when confronted with opposition that [is] grounded in principle” (Harvey 1988, p. 76)

#### Recommendations for Improvement

##### *1) Appreciate Your Greatest Asset*

What can the CEOs and Boards of Directors of major U.S. banks do to fix some of these issues? First, U.S. banks have to recognize and appreciate its greatest asset, its people. “The people that see customers have a role that is not usually appreciated by supervisors

and other management. Many customers form their opinions about the product or service solely by their contacts with the people that they see” (Deming, 1992, p. 192).

Therefore, celebrate your biggest asset, make them feel special, and valued. They will in turn make the clients feel just as special and valued. Create an inspired work environment (Ivanov, 2013, 2014) where people would feel empowered and motivated to achieve greatest levels of success.

To attain this, companies can start by creating a reasonable work life balance. It is a façade and doubletalk when management says work life balance is great, does nothing to support it, and in reality does everything to undermine it. For example: 7am conference call, and at the end of the day, another conference call at 6:45pm.

When managers ask for help to complete the enormous workload, upper management’s response is always you are salary, and therefore, stay later, but no overtime or anyone to help you.

Work life balance is a central key to associates’ morale, and feeling valued and appreciated. Support work life balance by respecting associates’ time. Plan work within the normal workday hours, from 8am to 5:45pm, with nothing outside of those hours (unless during extraordinary circumstances). Let the rest of the day be for the associates’ time to be with their friends and families, and to pursue life, liberty, and happiness, the American values. Encourage associates to leave on time and get the work completed within the nor-

mal business hours. This would prevent burnout and begin to increase morale.

## 2) *Champion Integrity*

In addition to valuing associates, the companies must foster an environment of honesty and integrity. One major U.S. bank, as an example, has a policy when it comes to customer service that only a perfect score is acceptable, while anything less than that is a 0 (failure). Also all sales goals must be met or exceeded.

These unrealistic goals create an environment of dishonesty. Associates would change customers’ phone numbers when having a bad interaction with them, because of the fear of getting a bad customer service score, because anything less than a perfect score is a 0-failure.

No one can maintain that type of performance; therefore, dishonesty sets in to meet this ridiculousness. Instead of great customer service, this bad policy fosters fear and the semblance of service that is not authentic. Fear can only motivate people to a certain level of productivity and only for a short period of time, until the associate is burned out and unable to perform.

Such fear becomes counterproductive to growth and performance of the organization. “Show me a manager, subordinate, teacher, preacher, student, parent child, politician, or anyone else who hasn’t made a mistake...and I will show you someone who has been afraid to try anything of significance” (Harvey, 1988, p. 60).

### 3) *True Wisdom from Consumers*

Most US Banks are on the right path on the importance of service, but completely wrong in their methods to obtain it. Because of the unhealthy environment created around getting perfect customer service scores, the data about the service interactions is completely inaccurate.

Deming warns against this, “A word about consumer research. I interject the warning that any attempt... by accepting shoddy design of a study or shoddy workmanship, will lead to incalculable losses from wrong information” (Deming, 1992, p. 181).

The only way to get the service corrected, according to Deming (1992, 1993) is to:

- 1) Design the product well.
- 2) Make it; test it in the production line, and in the laboratory.
- 3) Put it on the market.
- 4) Test it in service; find out what the user thinks of it and why the non-user has not bought it.

The U.S. banks are failing because they do not know the accuracy of what the users and non-users actually think about their products. One way to correct this is to take away the unrealistic expectations of getting perfect service scores on the customer surveys, and thus, not having the numbers altered.

It is more advantageous to know what customers actually think than to have scores that look good but have no real value or meaning because of inaccuracy.

One of the greatest teaching methods is to learn from mistakes and improve so that the next attempt is better than the previous. This is how true wisdom is gleamed, as long as the learning environment is positive and healthy, and not abusive and destructive with the impossible goal of perfectionism. Perfectionism breeds destruction in the long run because it erodes self-esteem continuously when perfection is the objective, an unobtainable goal. A better method is to focus on improvement and growth, fostering wisdom and a healthy learning environment to inspire people to greater levels of success.

### 4) *Quality and Team Work*

The next action to fix is assigning unrealistic goals. Stop setting 10% increases year after year just to appease stockholders (has anyone ever asked stockholders about these goals?). Put emphasis on work quality and not work quantity, quality relationships, quality accounts, etc. Deming’s theory, “a system of quality improvements is helpful to anyone that turns out a product or is engaged in service.” (Deming 1992, p. 183).

By placing focus on quality, there will be an increase in customer service, as well as increase in revenue, loan growth, and deposits. Ultimately, this would naturally lead to increase in the overall business, and the business would grow from doing the right behaviors instead of forced poor quality relationships just to get one more checking account with no money deposited.

There is also the need for incentives-based on teamwork and helping

other associates. Harvey (1988) points out there should never be a job that does not “seek help from anyone or give help to anyone as you do it” (p. 124). For example, if you refer a business to a business banker, both your branch and the business banker should get credit for the sale. Therefore, such business policy encourages teamwork. Make all partner referrals work that way. It will produce better teamwork. This teamwork and link between departments are integral to success. Without it, true levels of success cannot not be achieved. Harvey finds that “trainers of managerial talent are saying that it is moral and ethical to create anaclitic depression and marasmus, to deny the opportunity to express altruism, to ensure that the competence and elation of synergy cannot be experienced, and to train people to behave in ways that real work is unlikely to be done” (1988, p. 199).

### 5) *Meaningful Training*

Because there is always constant change with new techniques and procedures, spend money on meaningful training, and not just computer based façade-training.

In order for associates to actually learn the new techniques and procedures, quality classroom or in person training is integral for success. “How do you define quality of teaching? ... His aim should be to give inspiration and direction to students for further study” (Deming, 1992, p. 173).

Can computer based training inspire you to want to learn more? No. What really happens is people rush through the training, clicking through the screens to get to the assessment to

pass to go back to work. No time is actually spent learning.

The fear of getting the task completed outweighs the desire to actually learn and becomes unproductive. Training becomes just another task given to you by your manager to complete before coming back to work.

People always rush through such training because it is usually between you and lunch, or you and going home for the day, or between you and something you actually have to do.

Also because everyone just clicks through the screens, it sets a time precedent on how fast the training should take, which creates pressure to finish just as fast as everyone else. Therefore computer based training that should take one hour is usually finished in twenty minutes or less. What did you really learn? Nothing. In addition, there is usually a manager standing over you wondering why it is taking you so long to complete the training, because they have an additional task they want to assign to you right now. No real learning happens.

Therefore, in order to support real learning, there should be weekly training and conversation with each job family, pulling each job family from each region together to discuss real specific issues that need fixing. This would also create group cooperation and familiarity of common business issues.

“Almost every segment of our society seems to be deeply afflicted by one of the major diseases-- human loneliness. Yet, we do not seem to be waging any kind of effective battle against

its lethal domination” (Lynch, 1978, 2000, p. 33).

#### 6) *Career Development & Future*

In addition, there should be career development training. Harvey (1988) points out there are no real “management improvement programs” (p. 40).

There should be. Create an entire department to just handle career development because that is how important it is. Do not just hand this over to the bank managers or other managers in the organization. They are already over worked and this is too important not to get the attention and support it needs.

Have specific training available to progress in your current job family or transfer to an entirely different job family. Have time set aside each week for every associate to take classes toward their career growth and advancement, program- and business-specific. Once the classes and training are complete, associates should be eligible to move into promotions or transfer to entirely different lines of business. Jaques (1990) describes the realistic business policies for employee mentorship and career development.

This would create incredible amounts of loyalty and dedication to the company because people would clearly see how they could advance their careers. This would be also beneficial for the company because it would help place associates in an inspired state. Their work performance and diligence would increase, while turnover would greatly decrease, thus, saving the company money because the company would not have to “train”

as many new associates, and retain valuable experienced associates in order to continue to make the company more successful. An inspired state, according to Ivanov (2013, 2014), “is a state in which the person is at the peak in performance, motivation, creativity, production, and joy, and thus, is able to produce at enlightened levels.”

Deming writes, “Knowledge in any country is a national resource...the supply of knowledge in any field can be increased by education. ... company must, for its very existence, make use of the store of knowledge that exists within the company” (1992, p. 466).

Without a continual access to knowledge and training for company’s employees, the company’s efficiency drops and becomes great hindrance to achieve success. Just as business processes have to improve, the people who run these processes have to improve also. Without a continuous access to knowledge and training for the employees, progress is hindered.

By creating an entire career development department (the function which is not currently done by HR), the company would be better able to find the right people for new job openings. Promotions would come from internal candidates specifically trained in the competencies of the new job requirements.

This would be good asset to the company by increasing employee retention, company loyalty, and employee morale and satisfaction. In addition, this could save the company lots of money by not having to pay for the costs of hiring someone new, and avoiding the expense in new training.

Even Deming thought finding the right person is a challenge. “The combination of knowledge and leadership is exceedingly rare, and will require patience and earnest prayer to find. ... You may have to interview many applicants to find the right one” (1992, p. 468).

### 7) *True Work Life Balance*

In order to further increase work life balance, create a central daycare facility in every region of the company to make it easier for families with children. Make it award winning so parents are happy to place their kids there. This would be a wonderful win for the U.S. banks. They would appear to care about families. They would inspire people to want to work there. In addition to this family focus, award scholarships for employees to go to school,

### References

Deming, W. Edwards (1992). Out of the Crisis. Cambridge, MA: Massachusetts Institute of Technology.

Deming, W. Edwards (1993). The New Economics: For Industry, Government, Education. Cambridge, MA: Massachusetts Institute of Technology.

Dixon, Norman F. (1987). Our Own Worst Enemy: The Controversial New Study of Human Behavior - And The Threat It Poses To Man

and for their children to go to school. Create family days that are filled with fun, like an annual picnic where each region rents out a whole amusement park for the families, where all rides and food are free.

### Conclusion

These are our initial recommendations to help U.S. banks improve. Create inspiration and eliminate fear, inspire associates to produce quality over quantity, boost associate morale by investing in them through training, work life balance, and career development. The reward would be the overall business success, high associate retention, and long-term business profits achieved by high-performing associates, dedicated, experienced, and well trained, giving inspired levels of client service the world has yet to see.

Himself. London, U.K.: Jonathan Cape Ltd.

Harvey, Jerry B. (1988). The Abilene Paradox and Other Meditations on Management. San Francisco, CA: Jossey-Bass Publishers.

Harvey, Jerry B. (1999). How Come Every Time I Get Stabbed in the Back, My Fingerprints Are on the Knife?. San Francisco, CA: Jossey-Bass.

Ivanov, Sergey (2011). Why Organizations Fail: A Conversation About American Competitiveness. International Journal of Organizational Innovation, 4(94), 110-16.

Ivanov, Sergey (2012). The Problem of Defects in Modern Organizations:

- Preliminary Research Findings. International Proceedings of Economics Development and Research: Management and Education Innovation, 37(1), 42-45.
- Ivanov, Sergey (2013). Defects in Modern Organizations: Field Findings and Discovery. International Journal of Innovation, Management and Technology, 4(2), 204-208.
- Ivanov, Sergey (2013). Leaderless Organizations: Why Our Organizations Continue to Fail. 2013 International Business Conference Proceedings: Society for Advancement of Management.
- Ivanov, Sergey (2013). Defects in Modern Organizations: Field Findings and Discovery. International Journal of Innovation, Management and Technology, 4(2), 204-208.
- Ivanov, Sergey (2014). Feararchy and Organizations. Melbourne, Australia: Swinburne University of Technology.
- Jaques, Elliott (1990). In Praise of Hierarchy. Harvard Business Review, 68(1), 127-133.
- Jaques, Elliott (2002). Suggested concepts for "Space" and "Time". Gloucester, MA: Unpublished Paper.
- Lynch, James J. (2000). A Cry Unheard: New Insights into the Medical Consequences of Loneliness. Baltimore, MD: Bancroft Press.
- Lynch, James J. (1978). The Broken Heart: Medical Consequences of Loneliness. U.S.: Basic Books.
- Makhlouf, Hany (2012). Personal Discussion on Organizational Fear within Universities. Washington, DC: University of DC.
- Milgram, Stanley (1974). Obedience to Authority: An Experimental View. New York, NY: Harper & Row Publishers, Inc.
- Taylor, Frederick Winslow (1911). The Principles of Scientific Management. New York, NY: W. W. Norton & Company, Inc.

## THE COMMUNICATION EFFECTS OF INTERNET RUMOR ON COLLEGE STUDENTS

Dong Jenn Yang, Corresponding author  
Department of Business Administration  
I-Shou University, Taiwan  
[alimama@isu.edu.tw](mailto:alimama@isu.edu.tw)

Wan Ting Chung  
Department of Business Administration  
I-Shou University, Taiwan  
[tin741209@hotmail.com](mailto:tin741209@hotmail.com)

### Abstract

It has not yet been discussed whether Internet rumor messages have had serious negative effects. This study examined the communication effects of Internet rumor messages using four variables: the severity of negative Internet rumors (strong/ weak), personal relevance (high/ low), source credibility (high/ low) and whether or not they had been given an anchor value. The study used 147 valid homogeneous subjects and a between-subject experiment method was employed. The results showed that the severity of Internet rumors, the source credibility and personal relevance had significant influences on the communication effects.

Key Words: Internet rumor, communication effect, personal relevance, source credibility, anchoring theory



## Introduction

Surfing the Internet has become an integral part of life for many people. All kinds of network information have been widely disseminated via emails or web sites. However, due to the lack of information filtering mechanisms and unconfirmed message sources, unverified rumors or wrong messages are being constantly disseminated. The question is whether the involved objects of the Internet rumors are mostly specific targets or events (Wang & Lo, 2002). Few studies have explored the communication effects of Internet rumor messages. This study investigated the communication effects and impact with reference to the severity of Internet rumor messages (strong or weak), personal relevance (high/ low), source credibility (high/ low) and their anchor value.

## Literature Review

### *Internet Rumor*

“Rumor” is a proposition for belief in a topical reference that is disseminated without official verification (Peterson & Gist, 1951; Knapp, 1944). Traditionally, rumors spread through word of mouth. Nowadays, rumors can be spread rapidly by internet (eg. instant messengers, FB, and emails) (Zhao and Wang, 2013). It is an unverified account or explanation of events circulating among people or pertaining to an object, event

or issue of public concern. If spread through emails or web sites, it is referred to as an Internet rumor.

Rosnow (1991) believed that anxiety, uncertainty, credibility, and outcome-relevant involvement are the influential factors in the dissemination of rumors. Kamins (1997) and other scholars thought that the reasons for dissemination include people’s thoughts (the inner feelings generating the spread of rumors) and interpersonal interaction (rewards or punishment received after spreading rumors) of those looking for identification, releasing their emotions or exchanging information (Chaudhuri & Holbrook, 2001; Lazarus, 1991). The spreading circumstance would be especially significant if the feeling of importance regarding some topics was low, if the feelings of insecurity were high, or the message sources were highly reliable (Jaeger, Anthony & Rosnow, 1980).

Witte (1992) provided an extended parallel process model for audiences’ response process when dealing with messages. After they have received fear appeal messages, they would implement the threat evaluation, regarding the “severity” and “susceptibility”, based on the message content. If the deemed threat was low, they would neglect the message. If the perceived threat reached a certain degree but was still not very high, they would carry out an “efficacy evaluation”. The danger control in the

cognitive domain would be dealt with according to the “response efficacy” and “self-efficacy” in order to search for an effective way to avoid the threat. If the perceived minacity was high, it would result in the defense mechanisms being activated, such as denial or direct refusal. Consequently, the intensity of the minacity and the level of efficacy were the key factors influencing the cognitive processing of danger control. Therefore, the following hypothesis is proposed.

*H<sub>1</sub>. For audiences, the communication effect of strong Internet rumor messages is much higher than for weak Internet rumor messages.*

#### *Personal Relevance and Involvement*

Many factors have been found to affect the level of involvement, such as the purchasing context (Clarke & Belk, 1978), and product importance (Bloch & Richins, 1983). Within this involvement conceptualization, Zaichkowsky (1985) proposed that personal relevance, a person’s perceived relevance of the object based on their inherent needs, values and interests, was an important factor in motivating people to make decisions (p342). He further classified the involvement into three types: product involvement, purchasing decision involvement and advertisement involvement (Zaichkowsky, 1986). In terms of advertisement involvement, when the message is personally highly relevant, people are

more likely to change their attitude. Nowadays, a cell phone is not only a necessity for daily living but also a personal supply. Since a cell phone is personally highly relevant, audiences are more likely to process the information.

The cognitive dissonance theory proposed by Festinger (1957) emphasized that people would understand, pay attention to and memorize messages selectively, depending on their needs. When messages meet their expectations and contentions, the emotional consonance leads audiences to rationalize the truthfulness of the rumors. If messages are exploratory, the audience may not pay attention or generate a perception. An audience will only have perceptual sensitization and pay attention to messages that relate to them (Hsu, 2003), and a higher correlation can affect the audience's behavior and attitudes. The message and the audience's personal relevance are very important in the communication process. Therefore, the following hypothesis is proposed

*H<sub>2</sub>. The more the message has personal relevance, the better the communication effect of Internet rumor messages.*

#### *Source Credibility*

The convincingness of rumors relies on the credibility of the messages. There are two factors regarding the reliability:

credibility and expert knowledge (Hovland, Janis & Kelly, 1953). Credibility involves the trust and acceptance of the messengers or messages within the communication process (West, 1994; Ohanian, 1990). Expert knowledge is about the audience's perception of the messenger's professionalism and trustworthiness (Hsu, 2003). When consumers evaluate products, due to the negativity effect, negative information is seen as more useful or correct and, therefore, it would receive more attention (Herr et al., 1991; Maheswaran & Meyers-Levy, 1990).

If exposure to the message has been perpetrated by individual experience or the viewpoints of those in authority, its reliability and convincingness will rise. Hence, it has a positive effect on an audience's acceptance and trust level, and also increases their willingness to continue the dissemination of the rumor (Bordia & Rosnow, 1998; Rosnow, 1991). Therefore, the following hypothesis is proposed.

*H<sub>3</sub>. The credibility of the source has a positive impact on the communication effect of Internet rumor messages.*

#### *Anchoring Theory*

The anchoring effect assumes that people often use an initial point (anchor value) for the evaluation, but that they

do not necessarily accept this value completely. Therefore, they may use other related evidence to compare and adjust their evaluation before reaching the final answer (Tversky & Kahneman, 1974). In other words, when people predict something or make a decision, they are influenced by the initial information/numbers. Even if it is not related to an accurate answer for the estimated variable, people still use the initial information/numbers as an adjustable foundation.

Typical anchor studies have included two continuous processes: comparative judgment and absolute judgment. The former provides a reference number before the estimation, and the latter asks the subjects to estimate a real number for the experimental materials (Mussweiler & Strack, 2000). The relevant study results all revealed that the anchor effect was a common phenomenon, and its influence on decision-making was ubiquitous (Mussweiler & Strack, 2000; Mussweiler, Strack & Pfeiffer, 2000; Kruger, 1999). Tversky & Kahneman (1974) pointed out that when people make decisions under time duress or with insufficient cognitive resources, they use heuristics to find a solution. Among these factors, the anchoring effect has the biggest impact on decision-making (Chapman & Bornstein, 1996; Kristensen & Gärling, 1997; Hinsz, Kalnbach & Lorentz, 1997). Yang, Lo and Lin. (2011) studied safe

driving, demonstrating that an advertising message with a high anchor (e.g., the rate of high deaths from dangerous driving) will obtain a better communication effect than a message with a low anchor. Therefore, the following hypotheses are proposed.

*H4. Giving a message an anchor value has a better impact on the communication effect of Internet rumor messages.*

*H5. Giving an anchor value and the sources credibility has an interactive effect on communication effect.*

#### *Communication Effects*

The communication effect of an advertisement can be achieved by: (1) cognition (intention and understanding): seeing some concepts are real and agreeing with them as well as accepting them; (2) emotion (favorite and preference): changing potential consumers' attitudes and emotions in regard to a product, and (3) intention (determination and purchasing power): engaging in active or passive behavior towards a certain target (Fan, 1984).

Attitude is a kind of mental status or psychological tendency acquired by learning. Individuals will perform permanent evaluations of people, issues and objects, and these results in a cognitive

sense of like or dislike, emotional feelings and behavioral intention (Kotler, 1991; Schiffman & Kanuk, 2007). Swan (1981) thought that behavioral intention was a kind of behavior that involved a future expectation or planned behavior. Therefore, behavior could be predicted by intention (Backer & Crompton, 2000). This study constructed the communication effect by belief, cognition, attitude and behavior intention.

#### Methodology

This research was designed 8 advertising contents: two levels of severity for the messages (strong/ weak), given an anchor value or not, and the reputation of the sources (high/ low) and test the communication effects for the advertising contents.

#### *Pretest for severity level and anchor value*

The pretest only used narrative words, "If using a cell phone for two hours daily, how probable do you think it will be that you will have tinnitus or a brain tumor after five years?" to test perceived probability in order to estimate anchor value. Subjects were not stimulated by an advertisement in order to avoid interference with the answers. This study used a convenience sample and was administered individually. There were 30 subjects who participated in the pretest and the return rate was

100%. The results showed that, if using a cell phone for two hours daily, the anchoring probability for having a brain tumor after five years was 37%. For tinnitus, after five years, it was 43%.

### *Experimental Designs*

To avoid error caused by sample variance, purposive sampling was used to select homogeneous samples from college students aged from 20-23. A homogenous sample of 160 undergraduate students from a university in Taiwan participated in this experiment and subject-between was conducted. There were 147 completed replies to the questionnaire. Participants were given an advertising content at random based on either the severity of messages or with an anchor value advert and a questionnaire for the communication effects. The sample structure included 40 strong messages/without anchor, 32 weak messages/ without anchor, 45 strong messages/with anchor and 30 weak messages/with anchor valid replies.

### *Measurement designs*

The advertisement used narrative words to describe the Internet message, the probability of healthy problems and the illness (tinnitus/ brain tumor) caused by using a cell phone. All the constructs were measured by a 7-point Likert scale. Personal relevance and attitude were measured in response to the question,

“What are your thoughts about using a cell phone for a long time?” with scales stating “important, relevant, means a lot to me, frequent and significant” (Zaichkowsky, 1985; Mittal, 1995). The attitude scales stated “feel good, and favorable” (Coulter and Punj, 1999). The Cronbach’s alpha results were 0.921 and 0.732, respectively. The sources credibility, belief and cognition were measured in response to the question, “What are your thoughts about the contents of the cell phone advertised?” The sources credibility scales stated “professional, reliability, trustworthy and objective” (Ohanian, 1990). The belief scales stated “persuasive, real and worthy to believe” (DiFonzo and Bordia, 2002) and the cognition scales stated “useful, and rich message” (Batra and Ray, 1986; Coulter and Punj, 1999). The Cronbach’s alpha results were 0.95, 0.919 and 0.732, respectively. The Cronbach's alpha coefficient for behavior intention was 0.698. The behaviour intention was in response to the question, “How much do you intend to reduce the time using a cell phone?” and “forward the Internet messages to your friends and want to share damage messages with friends” (Kapferer, 1990). The Cronbach's alpha coefficient for behavior intention was 0.893. All the constructs of the Cronbach’s alpha were >0.73, indicating that the questionnaire had good reliability.

### *Manipulation Test*

A t test was used to discover whether the subjects were aware of the manipulative variable. 160 questionnaires were given out and 147 (92%) were completed questionnaires. The brain tumor message was considered strong to 85 subjects ( $m = 6.26$ ,  $sd = 0.44$ ). 62 subjects perceived the tinnitus message was weak ( $m = 4.5$ ,  $sd = 0.69$ ). The results showed that there were significant differences in the severity perception of Internet rumor messages ( $p < 0.001$ ) so the manipulation was successful.

Research has shown that people's decisions and predictions are strongly influenced by the anchoring effect (Mussweiler & Strack, 2000; Mussweiler et al., 2000; Kruger, 1999). The anchor effect was considered to be an important variable within this study. To make sure that the anchor value was perceived by the subjects, an item "If using a cellphone for two hours daily, how probable do you think it is that you will have tinnitus or a brain tumor after five years?" appeared in the questionnaire. Any questionnaire with a correct anchor value was treated as a valid questionnaire. The correct response rates were 98% and 84%, respectively, for the subjects of strong and weak severity of the message. The results showed that the anchor value was certainly perceived by the subjects.

## Data Analysis

From Table 1, it was found that the severity of the Internet rumor message had a significant communication effect on belief ( $t=-6.637$ ,  $p=0.000$ ), cognition ( $t=-5.148$ ,  $p=0.000$ ) and behavioral intention ( $t=-5.993$ ,  $p=0.000$ ) but not on attitude ( $t= 0.409$ ,  $p=0.683$ ). Therefore,  $H_1$  was partially supported.

Table 2 pointed out that the anchor value only had a significant effect on belief ( $t=-1.798$ ,  $p=0.074$ ), on cognition ( $t=-2.443$ ,  $p=0.016$ ) and attitude ( $t=-3.008$ ,  $p=0.003$ ), but not on behavioral intention ( $t=-0.180$ ,  $p=0.858$ ). Hence,  $H_2$  was only partially supported.

Table 3 pointed out that the anchor value only had a significant effect on cognition ( $t=-1.894$ ,  $p=0.061 < 0.1$ ), but not on belief ( $t=-0.412$ ,  $p=0.681$ ), attitude ( $t=-1.194$ ,  $p=0.234$ ) or behavioral intention ( $t=-1.586$ ,  $p=0.115$ ). Hence,  $H_3$  was only partially supported.

From Table 4, it was noticed that the source credibility had a significant influence on belief ( $t=-6.723$ ,  $p=0.000$ ), cognition ( $t=-6.003$ ,  $p=0.000$ ), attitude ( $t=-2.407$ ,  $p=0.017$ ) and behavioral intention ( $t=-4.883$ ,  $p=0.000$ ) and so  $H_4$  was supported.

According to the adaptation level theory, an Internet rumor message with anchor value would produce a stronger

communication effect. However, it only had a significant influence on cognition, not on belief, attitude or behavioral intention. Therefore, H<sub>4a</sub> was partially supported.

In the analysis of variation, the sources credibility was adjusted by the anchor value, which meant it had an interaction effect on belief ( $F=4.528$ ,  $p=0.006$ ), cognition ( $F=2.444$ ,  $p=0.072$ ) and attitude ( $F=2.174$ ,  $p=0.1$ ), but not on behavioral intention ( $F=0.83$ ,  $p=0.482 >0.1$ ) (Table 5). Hence, H<sub>5</sub> was only partially supported.

### Results and Discussion

Except for attitude, the experiments showed that a strong Internet rumor message has a better communication effect than a weak Internet rumor message. Internet exaggerated rumor messages will attract more attention and response from an audience, especially when personally relevant. Even attitudes can be changed through an Internet rumor with a high level of source credibility. Therefore, it can be seen that Internet rumor messages have a significant influence on college students. Messages that are most personally relevant to audiences have better communication effects. The results are the same as Yang's (2013) study regarding smoking cessation messages and a situational audience. Broadbent's (1958) the filter model of selective attention has a good

explanation for these results. An individual has cognitive processes to focus on relevant issues or targets on input, thoughts or actions.

An anchor value only had a significant effect on cognition but not on belief, attitude or behavior intention. This perhaps because the anchor position was set from the mean value of the pretest, which already fell within the acceptable latitude, and, therefore, the influence was not significant. The anchor value of the Internet rumor message might be different from the audience's expectation so they would put more effort into processing the information, which had an impact on cognition. With regards to belief, attitude and behavioral intention, the anchor value didn't have a significant effect. Maybe this was because the anchor value of the advertisement was set from the mean value of the pretest, which was similar to the advertisement's reference information. If the chosen anchor value was not the mean value, the communication effects might be more significant. The result same as Yang and Ma (2014) in first anchor exposure just weakly affects the communication effects regarding recycling. Additionally, the advertisement was only revealed once and the exposure was rather short. Krugman (1972) thought that under a high level of involvement, if the subjects could be exposed to the message three times, it would have a positive influence on the recall rate. Furthermore, Ma, et

al. (2014) studied the theory of planned behavior (TPB) between the first and third advertising exposure. This demonstrated that: the attitude, subjective norm, perceived behavioral control, and behavioral intention toward recycling and the regression relationship of the TPB model was not obvious after the first advertising exposure but that attitude and perceived behavioral control had a significant influence on behavioral intention toward recycling by the third advertising exposure. Future studies could compare the reliability and validity between a single exposure and multiple-time exposure.

The reliability of the message sources and the anchor value had a better interaction effect on belief, cognition and attitude. According to Lichtenstein, Burton and Karson (1991) the reliability of the advertisements had a significant influence on the assimilation contrast effect. When the advertisement's information differed from the reference information, it was reasonable to use the assimilation contrast theory to predict its influence on the audience's reference information. However, this study was based on the physiological damage caused by using cell phones over a long period of time so the subjects' reference information and the advertisement's reference information would have a similar influence on behavioral intention. As a result, the interaction effect of the sources' credibility and the anchor value

would not be significant.

For college students, the usage frequency of cell phone and the Internet is increasing rapidly, and can even affect their learning and lifestyle with unproven Internet messages. In particular, when a strong Internet rumor message is personally relevant, the message can affect their belief, cognition, attitude and behavior. From the social marketing perspective, government, nonprofit organizations and schools can take advantage of such communication tools to facilitate how college students learn and improve the good behavior of the action generation.

#### Limitations

Results from this study show an interesting communication effect in respect of college students regarding Internet rumor messages, source credibility and anchor value. However, there are several limitations that should be considered in this study. First, this study adopted purposive sample college students in south Taiwan and the issue of using Internet rumor messages via cell phone. The results' applications to other issues or other areas should be treated with caution.

#### Further Research Suggestions

This study only used a negative rumor message to investigate the influence



of the anchor theory on the communication effects. Researchers might want to include a positive/negative rumor and an institutional message to make comparisons. This was not only to ensure that the negative rumor had a better communication effect than the positive rumor but to also examine the communication effects of the institutional message.

When the anchor value of the advertisement was set from the mean value of the pretest, which was closer to the subjects' prediction value, it could not test the exact communication effects. Researchers could set a higher anchor value, such as a third quartile or fourth quartile, to explore the communication effects or compare the communication effects between a lower anchor value and a higher anchor value.

### References

- Baker, D. A., & Crompton, J. L. (2000). Quality, satisfaction and behavioural variables. *Annals of Tourism Research, 27* (3), 785–804.
- Batra, R., & Ray, M. L. (1986). Affective responses mediating acceptance of advertising. *Journal of Consumer Research, 13* (2), 234–249.
- Bloch, P. H., & Richins, M.L. (1983). A theoretical model for the study of product importance perceptions. *Journal of Marketing, 47*(Summer), 69-81.
- Bordia, P., & Rosnow, R. L. (1998). Rumor rest stops on the information highway: Transmission patterns in a computer-mediated rumor chain. *Human Communication Research, 25*(2), 163–179.
- Chapman, G. B., & Bornstein, B. H. (1996). The more you ask for, the more you get: Anchoring in personal injury verdicts. *Applied Cognitive Psychology, 10*, 519–540.
- Chaudhuri, A., & Holbrook, M.B. (2001). The Chain of Effects from Brand Trust and Brand Affect to Brand Performance: The Role of Brand Loyalty. *Journal of Marketing, 65*, 81–93.
- Clarke, K., & Belk, R. (1978). The effects of product involvement and task definition on anticipated consumer effort. In H.K. Hunt Ed., (1978). *Advances in Consumer Research, 5*, Ann Arbor: Association for Consumer Research, 313-318.
- Coulicr, K. S., & Punj, G. (1999). Influence of viewing context on the determinants of attitude toward the ad and brand. *Journal of Business Research, 45*(1), 47–58

- DiFonzo, N., & Bordia, P. (2002). Corporate rumor activity, belief and accuracy. *Public Relations Review*, 28, 1–19
- Fan, Z. Y. (1984). *Research of Advertising Effects*. Taipei: San Min Book Corporation.
- Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford, CA: Stanford University Press.
- Herr, P. M., Kardes, F. R., & Kim, J. (1991). Effects of word-of-mouth and product- attribute information on persuasion: an accessibility-diagnosticity perspective. *Journal of Consumer Research*, 17, 454–462.
- Hinsz, V. B., Kalnbach, L. R., & Lorentz, N. R. (1997). Using judgmental anchors to establish challenging self-set goals without jeopardizing commitment. *Organizational Behavior and Human Decision Processes*, 71, 287–308.
- Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and Persuasion*. New Haven, Connecticut: Yale University Press.
- Hsu, T. K. (2003). *Consumer Psychology*. Taipei: Tunghua Book Store.
- Jaeger, M. E., Anthony, S., & Rosnow, R. L. (1980). Who hears what from whom and with what effect: a study of rumor? *Personality and Social Psychology Bulletin*, 6, 473–478.
- Kamins, M. A., Folkes, V. S., & Perner, L. (1997). Consumer responses to rumors: good news, bad news. *Journal of Consumer Psychology*, 6(2), 165–187.
- Kapferer, J. N. (1990). *Rumors –Uses, Interpretations, and Images*. New Brunswick: Transaction Publishers.
- Knapp, R. H. (1944). A psychology of rumor, *Public Opinion Quarterly*, 53, 467–481.
- Kotler, P., (1991). *Marketing Management: Analysis, Planning, Implementation and Control* (7th ed). New Jersey: Prentice-Hall.
- Kristensen, H., & Gärling, T. (1997). Anchor points, reference points, and counteroffers in negotiations. *Göteborg Psychological Reports*, 27(7), 1-12.
- Kruger, J. (1999). Lake Wobegon be gone! The “below-average effect” and the egocentric nature of comparative ability judgments. *Journal of Personality and Social Psychology*, 77, 221–232.
- Krugman, H. E. (1972). Why three exposures may be enough. *Journal of Advertising Research*, December,

11–15.

- Lazarus, R. S. (1991). *Emotion and Adaptation*. New York: Oxford University Press.
- Lichtenstein, D. R., Burton, S., & Karson, E. J. (1991). The effect of semantic cues on consumer perceptions of reference price ads. *Journal of Consumer Research*, 18, 380-391.
- Ma, T. K. E., Yang, D. J., & Truong, H. N. (2014). The influence of repetitive advertising on effect of communication: An empirical study on Recycling. *The International Journal of Organizational Innovation*, 6(3), 190-198.
- Maheswaran, D. & Meyer-Levy, J. (1990). The influence of message framing and issue involvement. *Journal of Marketing*, 27(3), 361–367.
- Mittal, G., (1995). A comparative analysis of four scales of involvement, *Psychology & Marketing*, 12, 663–682
- Mussweiler, T., & Strack, F. (2000). The use of category and exemplar knowledge in the solution of anchoring tasks. *Journal of Personality and Social Psychology*, 78(6), 1038–1052.
- Mussweiler, T., Strack, F., & Pfeiffer, T. (2000). Overcoming the inevitable anchoring effect: Considering the opposite compensates for selective accessibility. *Personality and Social Psychology Bulletin*, 26, 1142–1150.
- Ohanian, R. (1990). Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractiveness. *Journal of Advertising*, 19(3), 39–52.
- Peterson, W., & Gist, N. (1951). Rumor and public Opinion, *American Journal of Sociology*, 57, 159–167.
- Rosnow, R. L. (1988). Rumor as communication: a contextual approach. *Journal of Communication*, 38, 1–17.
- Rosnow, R. L. (1991). Inside rumor: a personal journal. *American Psychologist*, 46, 484-496.
- Schiffman, L. G., & Kanuk, L. L. (2007). *Consumer Behavior*. Pearson Education International Press.
- Swan, J. (1981). Disconfirmation of expectations and satisfaction with a retail service. *Journal of Retailing*, 57(3), 49–66.

- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, *185*, 1124–1131.
- Wang, C. C., & Lo, S. K. (2002). A content analysis study for internet rumors. *Journal of Information, Technology and Society*, *2*(1), 131–148.
- West, M. D. (1994). Validating a scale for the measurement of credibility: a covariance structure model approach. *Journalism Quarterly*, *71*(1): 159–168.
- Witte, K. (1992). Putting fear back into fear appeals: The extended parallel process model. *Communication Monographs*, *59*, 329–349
- Yang, D. J. (2013). The communication effects of audience situation and message framing on smoking cessation. *International Journal of Management, Economics and Social Sciences*, *2*(4), 252-264.
- Yang, D. J., Lo, J. Y., & Lin, W. C. (2011). The effect of social marketing communication on safe driving, *Psychological Reports*, *109*(3), 739-745.
- Yang, D. J., & Ma, T. K. E. (2011). Exploring anchoring and communication effects from message manipulation: An experimental study about recycling. *Pan-Pacific Management Review*, *14*(2), 79-108.
- Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of Consumer Research*, *12*, 341–352.
- Zaichkowsky, J. L. (1986). Conceptualizing involvement. *Journal of Advertising*, *15*(2), 4-14.
- Zhao, X., & Wang, J. (2013). Dynamical Model about rumor spreading with medium. *Discrete Dynamics in Nature & Society*, 1-9.

#### Acknowledgements

Corresponding author thanks financial supported by the National Science Council of R. O. C. (NSC 102-2410-H-214-003-SS2) and anonymous reviewers who gave many writing suggestions.

Table 1. The severity of Internet rumor messages on communication effect

Communication effect	Severity	Subjects	Mean	Standard deviation	t value	p value
Belief	Weak	62	4.39	1.09	-6.637	0.000***
	Strong	85	5.53	0.93		
Cognition	Weak	62	4.65	1.08	-5.148	0.000***
	Strong	85	5.50	0.84		
Attitude	Weak	62	3.89	1.18	0.409	0.683
	Strong	85	3.80	1.40		
Behavioral intention	Weak	62	4.54	0.87	-5.993	0.000***
	Strong	85	5.55	0.95		

Table 2. The personal relevance of Internet rumor messages on communication effect

Communication effect	Relevance	Subjects	Mean	Standard deviation	t value	p value
Belief	High	75	4.62	0.93	-1.798	0.074+
	Low	72	4.91	1.01		
Cognition	High	75	4.83	1.25	-2.443	0.016**
	Low	72	5.31	1.11		
Attitude	High	75	4.92	0.96	-3.008	0.003**
	Low	72	5.42	1.05		
Behavioral intention	High	75	4.87	0.90	-0.180	0.858
	Low	72	4.90	1.03		

Table 3. An anchor value on communication effect

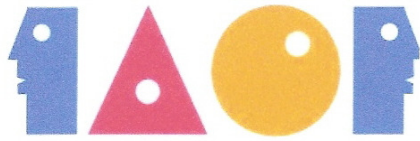
Communication effect	Anchor value	Subjects	Mean	Standard deviation	t value	p value
Belief	Without	72	5.02	1.16	-0.412	0.681
	With	75	5.09	1.12		
Cognition	Without	72	4.98	1.05	-1.894	0.061+
	With	75	5.29	0.99		
Attitude	Without	72	3.71	1.22	-1.194	0.234
	With	75	3.96	1.40		
Behavioral intention	Without	72	5.03	1.10	-1.586	0.115
	With	75	5.29	0.93		

Table 4. Source credibility on communication effect

Communication effect	Source credibility	Subjects	Mean	Standard deviation	t value	p value
Belief	Low	68	4.47	1.05	-6.723	0.000***
	High	79	5.57	0.95		
Cognition	Low	68	4.66	1.03	-6.003	0.000***
	High	79	5.58	0.82		
Attitude	Low	68	3.57	1.26	-2.407	0.017*
	High	79	4.08	1.33		
Behavioral intention	Low	68	4.76	0.99	-4.883	0.000***
	High	79	5.52	0.91		

Table 5. Interaction effect between source credibility and an anchor value on communication effect (two-way ANOVA)

Variance		IISS	Freedom	Mean square	F value	p value
Source credibility	Belief	22.23	1	22.23	8.417	0.043*
	Cognition	16.66	1	16.66	11.636	0.18
	Attitude	7.57	1	7.57	2.427	0.175
	Behavioral intention	0.14	1	0.14	0.187	0.674
Anchor value	Belief	6.76	4	1.69	0.431	0.783
	Cognition	8.55	4	2.14	1.126	0.478
	Attitude	5.35	4	1.34	0.333	0.842
	Behavioral intention	8.17	4	2.04	3.065	0.182
Source credibility × Anchor value	Belief	12.03	3	4.01	4.528	0.006**
	Cognition	5.80	3	1.93	2.444	0.072 <sup>+</sup>
	Attitude	12.25	3	4.80	2.174	0.1 <sup>+</sup>
	Behavioral intention	1.99	3	0.66	0.83	0.482



## A CASE STUDY OF THE CORPORATE TURNAROUND STRATEGIES

Wei-Hwa Pan

Department of Management

National Yunlin University of Science and Technology, Taiwan

panwh@yuntech.edu.tw

Yih-Lang Chen\*

Department of Food and Beverage Management

National Kaohsiung University of Hospitality and Tourism, Taiwan

Department of Management

National Yunlin University of Science and Technology, Taiwan

\*(Corresponding Author) [chenalan99@gmail.com](mailto:chenalan99@gmail.com)

### Abstract

This paper adopts a case study approach to identify the turnaround actions of a restaurant firm that affect its capability to launch turnaround strategies when encountering different corporate crisis contexts. The study ascertains key factors that could optimally be applied as a best practice framework for change management leading to corporate turnaround in a highly volatile restaurant business.

Since turnaround strategies have not been pursued vigorously as a stream of research within the hospitality industry, this approach would afford a framework for hospitality researchers to commence similar future research processes, which in turn would help the industry cope with turnaround.

**Keywords:** Corporate Turnaround, Entrepreneurship, Organizational Strategy, Restaurant Industry, Strategic Turnaround.

## Introduction

Company growth has continually been the topic of concern for company founders and operators and the core of management studies. For company organizations that continually seek growth, company growth becomes particularly crucial when companies achieve a stable profit and a leading status in the industry. On the other hand, companies that operate in a volatile environment confront the challenge of keeping pace with constant changes in their external environment. While companies that are able to respond the threats they encounter in such environments are allowed to remain still their competitive advantage, those that are not able to cope with the environment either perish or face the insurmountable task of turnaround.

In this paper, we inquire into how the unique characteristics of established a restaurant firm affect its ability to fulfill turnaround strategies when facing two critical organizational crises. The topic of turnaround strategies is of substantial interest not only for our conceptual understanding but also for the management of restaurant firms. Empirical studies have long documented that hospitality operators frequently encounter organizational crises and demonstrate a high rate of firm failure (Elwood, & Tse, 1991; Ibrahim, Soufani, & Lam, 2001; Tse, & Olsen, 1999; Umbreit, 1996). A deeper comprehension of turnaround strategies in this firm promises improved organizational abilities to successfully employ such strategies.

This paper contributes to the emergent research that argues against the simple application of standard turnaround strategies to hospitality-related businesses (Elwood, & Tse, 1991; Hambrick, & Schechter, 1983; Tse, & Olsen, 1999; Umbreit, 1996). Given the limited prior research that directly connects hospitality firm characteristics with the implementation of turnaround strategies, we investigated realistic turnaround behavior in an established restaurant firm that had been faced two organizational crises. Based on an iterative approach of data interpretation and further data collection, we developed specific propositions with respecting to how firm characteristics influence the firms' ability to endure retrenchment, implement top-management change, and to draw on corporate entrepreneurship. The propositions outlined in this study contribute to the development of more fine-grained models of strategic turnaround in restaurant firms.

## Literature Review

### *Definition of Corporate Turnaround*

Typically, most turnaround situations result not only owing to external factors but also due to the incompetence and inexpertise of the organizational management. Researchers have described turnaround as a multi-stage process (Bibeault, 1982; Pearce and Robbins, 1993). Bibeault (1982) indicates that a firm's primary objective of turnaround is to prevent the downturn, which should be followed by actions that either seek profitability with changed resource commitment or



search new growth avenues. In other words, these are long-term actions engaged by firms that include investments aimed at motivating financial improvements.

Bruton and Rubanik (1997) define turnaround as “the reversal in a firm’s decline in performance”. Other definitions of turnaround include those activities that support firms in the regeneration of their businesses. Schendel et al. (1976) introduced their concept on the cause of the turnaround situation and its effect on the selection of appropriate turnaround strategies, while Hofer (1980) stated the aspect of severity of the turnaround situation and the selection of adequate turnaround strategies. Hambrick and Schechter (1983) empirically tested the notions asserted by Schendel et al. (1976) and Hofer (1980). Suzuki (1985) pointed out the types of strategies involved in turnaround. These strategy choices include:

- (1) Top management replacement.
- (2) Financial strategy (inventory control, liquidity management, debt management and equity management).
- (3) Personnel strategy (trimming of workforce).
- (4) Marketing strategy (product and market diversification).

According to Bruton and Rubanik (1997), generic rules that apply to a turnaround situation include:

- (1) A crises (as a motivator for

management to adopt necessary actions to reverse the situation).

- (2) Retrenchment effort (to control cash flows).
- (3) Operating, strategic and/or a mixture of the two (initiated after step 2).
- (4) Corporate culture (shapes turnaround strategy).
- (5) Leadership

### *Influence Turnaround Factors*

In the light of Sloma (1985), the factors that influence turnaround can be categorized into internal and external factors. External factors are forces that affect the organization from the external environment vis-a`-vis economic problems, competitive problems, technological change and social change. Therefore, Scherrer (2003) proposed external factors include increased competition, rapidly changing technology and economic fluctuations. While describing the stages in turnaround, Scherrer asserts that the business should be able to stabilize within 6 months to 1 year after implementation of the plan. Besides, it should be able to return to growth within 1 to 2 years after stabilization.

On the other hand, internal factors are symptoms that firms show from within the organization that can range from problems such as inability to pay taxes and debt services to eroding gross margin, decreasing capacity utilization, increased turnover of management and staff and lack of competence and expertise to instruct the organization on

the part of top management. There are several main internal factors of decline include increasing inventory while sales growth decreases, cash flow problems and management's inability to cope up with growth.

Therefore, Allaire and Firsirotu (1985) divided company crisis into current company status and company's ability to coordinate with the future environment. When the time given is limited during a crisis, decision makers must consider the degree of influence that the crisis has on the company and adopt four major reform strategies: reorientation, transformation, turnaround, and revitalization.

These strategies are described as follows:

(1) Reorientation

Reorientation is the easiest one to accomplish among the four major strategies. When performance is expected to stagnate or decline as the current market reaches maturity, corporations can transfer a portion of their resources to increasingly attractive markets or industries, take disciplinary action against current business departments, or acquire new business departments. This process involves various business departments or domains. However, experiences of past success cannot necessarily be applied; corporations must adapt to different cultures or organizational structures.

(2) Transformation

Transformation strategies must be executed by effective leaders who are willing to fulfill company goals and spearhead reform in corporations. However, transformation strategies are typically used during periods in which the company performs favorably. Therefore, leaders who can develop goals to be achieved in the future are necessary because these periods lack clear incentives for reform.

(3) Turnaround

Corporations adopt turnaround, which is the act of promoting substantial reform over a considerable period, when they encounter survival threats.

(4) Revitalization

Revitalization is when operating performance, such as profitability and the market share of the corporation, declines without the occurrence of an immediate crisis or when the operating conditions of a corporation stabilize after turnaround. Strategy reform for eliminating the causes of performance decline must be executed during this period to restore profitability and adjust the direction of the corporation.

Consequently, Lee (1987) categorized crisis response into three basic strategies: reduction, restructure, and growth. These three basic strategies are also implemented in steps together with periods of withdrawal, strengthening, and progress during a company's crisis response.

## Company Background

Wowprime Corp was established by President Day in 1990. Originally an amusement park business, it was subsequently transformed into a chain restaurant. Wowprime adopted a development method similar to internal entrepreneurship in which all executives at a level above store managers and chefs are shareholders. On the other hand, Wowprime is firmly anchored on three ancient Chinese philosophers' schools of thought: Han Fei Zi's Legalism, Laozi's Taoism and Confucianism. The firm president credits their respective focus on discipline, nonaction by the ruler (collective leadership) and humanity (treating colleagues like family members) for propelling the company's rapid expansion in the past decade.

Wowprime is a multi-brand operation and owns 14 restaurant brands. Each brand displays distinct product characteristics and holds a certain consumer group position. The services provided comprise Western-style steaks, creative Washoku (Japanese cuisine), grills, Hokkaido kelp pot, kaiseki cuisine, teppanyaki, Japanese-style pork curry, and vegetarian cuisine. In China, Wang Steak and TASTy are in service with the addition of two new brands to the China business group: the teppanyaki restaurant, LAMU Teppanyaki, and the kaiseki restaurant, Zen Cuisine. A total of 13 restaurant brands across the Taiwan Strait provide these services. Thus, Wowprime's cross-strait expansion strategy is to adopt regular chain operations instead of developing franchisees to maintain service

quality. By 2013, a total of 359 restaurants were in service, which comprised 273 restaurants in Taiwan and 86 restaurants in China. Thus, there are ambitious growth plans underpin the company's listing, which will make franchising overseas more transparent and –accountable, thus, the firm intend to raise its number of outlets and franchises to 1,000 by 2020 and 10,000 by 2030.

In addition to cross-strait international layout development, Tokiya has been authorized by Mai Tan corporations in Thailand to engage in brand operation in September 2011. Tokiya currently operates two stores and is expected to open 20 branches before 2016. In 2012, Wowprime advanced into China's affordable catering market through a joint venture with the Philippines' largest chain restaurant group, Jollibee Foods Corporation, in which the 12Hotpot brand was established. At the end of November 2013, Wowprime agreed with Singapore's Chinese restaurant chain, Pu Tien Restaurant Pte Ltd, to a joint venture that introduced Wowprime's vegetarian restaurant brand, Sufood, into Singapore.

## Research Method

### *Research Design*

According to Yin (1994), case studies are rich, empirical descriptions of particular instances of a phenomenon, or underline the rich, real-world context in which the phenomena occur. Therefore, the primary notion of employing a case study is to adopt cases as

the basis for developing theory inductively (Eisenhardt and Graebner, 2007).

A case approach adopting content analysis of longitudinal data and information was applied to explore and analyze the firm's turnaround strategies. This approach helps look into the actions of the firm over time in terms of the strategies that were used to describe the external and internal factors influencing decline over the period. Case study methods have been employed in studying turnaround strategy over the past three decades (Schendel et al., 1976; Hofer, 1980; Bruton and Rubanik, 1997; Chowdhury, 2002). This provides the validity of case study methods for documenting the turnaround actions of firms. Likewise, it should be emphasized that these studies were published in top-tier management journals.

In this research plan, a longitudinal interpretive and exploratory case study approach was used to develop its function of theories construction (Eisenhardt, 1989; Yin, 1994; Eisenhardt and Graebner, 2007), which was consistent with the process orientation of the study. The Wowprime catering company was chosen as the research subject of this single-case study based on several considerations. According to Yin (1994), the selection of a single case can be based on the whether the case is a well-formulated key theoretical case, an extreme or unique case, or a revelatory case. Analyzing such cases can reveal special effects for further study in the future (i.e., multicase studies).

### *Data Collection*

We employed multiple approaches during data collection to meet criteria for trustworthiness (Lincoln and Guba, 1985; Yin, 1994), including semi-structured interviews, archival data, and observation. To acquire information on the actions taken by Wowprime Corp, over 200 related articles from secondary sources, i.e., Business Weekly, company websites as well as databases such as ABI-Inform were scrutinized. These actions were then compared to the operating turnaround measures and strategic turnaround measures in order to evaluate objectively whether this firm's moves resembled turnaround strategies.

### *Data Analysis*

We used MAX.Qualitative Data Analysis software (MAXQDA) (Kuckartz, 2001) to content analyze the interview transcripts to find out patterns, core consistencies, and implications related to turnaround activities. The analyses generated a set of themes and clusters of thoughts and phrases that had been expressed by several of the respondents, not just by one or two individuals. We progressed this set of themes further over a period of several months into the model of turnaround strategy introduced in this paper. Finally, we shared our results with the top-management teams of the firm and incorporated their feedback.

## Discussion

### *Antecedents of the First Turnaround*

Wowprime originated through the operation of an amusement park business, which quickly gained profit through the creation of an ostrich-riding South African theme park in 1990. Immediately, three new theme parks emphasizing novel experiences were successfully established within half a year. However, revenue quickly decreased because of a lack of control over the fickle interests of domestic (Taiwan) citizens.

Subsequently, Wowprime established an all-you-can-eat National Steak House in 1993. However, a lack of understanding of the restaurant business resulted in financial losses, which subsequently caused the restaurant to rapidly lose business. In November of the same year, Wang Steak, an up-scale steak restaurant was established under the largest corporation in Taiwan: Formosa Plastics Group. Adopting the marketing practice of applying unique private guest house receipts and serving Chinese-style well-done steaks created new business opportunities for Wowprime.

Upon market stabilization and successive branching, Wowprime further developed five major business areas including Mongolian Whole Sheep Barbecue, No. 1 Zongzi, the Guinness World Records Museum, and former theme parks. Thus, Wowprime has become a multibusiness group involved in the catering, leisure, and

recreation business industries.

However, industrial hollowing occurred after a series of events including an economic crisis in 1997, known as the Asian financial crisis, reduced consumer intentions caused by the 1999 921 earthquake that produced a 7.3 on the Richter scale, and accelerated outflow from Taiwanese manufacturers to China that began in 2000. This domino effect negatively affected economic growth, which was the first time this had occurred over the previous 30 years in Taiwan. The catering industry, which has traditionally been considered as a domestic demand industry, was also inevitably influenced by this negative effect on the economy. Consequently, Wowprime's overall revenue between 2000 and 2001 decreased by 25%. In 2000, Wang Steak, which persisted in the high-priced business market, was forced to consecutively close three branches and layoff 50 staff members; employees throughout the company were uneasy during this period.

### *Turnaround Process*

Under unstable operating conditions caused by simultaneously managing compound diversified businesses, Wowprime's executives made the following decisions regarding the future direction of the company:

- (1) Retain the currently profitable vertical brand extension strategy in multibusiness operations (i.e., retain the individual operation of the low-priced No. 1 Zongzi restaurant and high-priced

Wang Steak establishment).

(2) Eliminate the relatively less profitable brands and retain the thriving Wang Steak brand as the brand extension strategy (focused cultivation).

Through debates and discussions in the company's "Central Standing Committee" (an imitation of the Kuomintang's highest decision-making mechanism, which comprises high-level group executives above the level of directors who form a collective leadership system and serve as the company's decision-making center), a final resolution was established, which was to retain the brand that demonstrated optimal performance and the greatest prospective profit, Wang Steak, and quickly close and sell the other four still-profitable business bodies within a year. The entire corporation cut back and concentrated on Wang Steak operations by immediately conducting a series of thorough and in-depth standardized operations in which McDonald's efficient training structure and The Landis's (domestically renowned for their high-quality services) unique service philosophy was fully imported.

Thus, the storefronts were divided into six sections, which comprised scheduling, training, maintenance, ordering, reception, and administration. Additionally, Wang Steak has an internal culinary department, which is absent at the McDonald's Corporation. Conducting focused operations enabled Wang Steak to stay quiet and make adjustments without opening additional restaurants

for over a year. Consequently, from the original seven restaurants established in the struggle for expansion, Wang Steak suddenly expanded to 14 branches. This enabled Wowprime to establish an unreachable leading status in the industry of domestic high-priced steak restaurant chains.

### *Turnaround Analysis and Propositions*

Since the company was established, Wowprime has adopted compound diversification operations by combining the amusement park business with the catering industry. Upon the formation of a diversified business body, Wowprime ceased to encounter the strategic competitiveness problem faced by single companies, and instead pursued the overall comprehensive performance of a group operation within each business body.

Therefore, diversified companies must plan various aspects of establishments and extensions including resource distribution, future development directions, and core competitiveness from the company perspective as a whole instead of simply opportunistically seek and identify solutions.

The initial development of Wowprime involved continual setbacks because of ineffective strategies, maladministration, improper resource configuration, as well as the lack of and inability to establish core competences in a timely manner. Therefore, if diversified operation is to be adopted in company strategies, the resource distribution and

comprehensive performance coordination and creation between business units must first be determined. In addition, coordination with the original group constitution and strategic requirements must be considered prior to choosing and developing new businesses.

Therefore, through group decisions, the company decided to focus on a single restaurant brand in the company expansion strategy. Organization resources were compiled, the process of establishing core competence began, and irrelevant business bodies were eliminated within a year. Moreover, Wowprime could no longer solely rely on opportunistic wealth for its long-term survival and instead had to depend on a set of feasible chain replication operation models (core competence) to maintain profits and establish a competitive edge. Thus, McDonald's training, grouping, and operation structures and The Landis's service concept were introduced to achieve "backend process industrialization and frontend service customerization." This has substantially increased catering quality, customer satisfaction, and operational efficiencies. Moreover, prior limitations on up-scale steakhouse store counts have been overcome, which followed the sudden expansion to the highest number of high-priced steakhouses in Taiwan.

*Proposition 1-a: When the company encounters drastic changes in external operation environments that result in poor internal profits and operation crises, reform strategies must be immediately*

*executed to restore operational performance and make a fresh start.*

*Proposition 1-b: Company operational reform strategies must implement the necessary control and reduction of company assets and overhead costs before pursuing increased revenue.*

### *Antecedents of the Second Turnaround*

Ninety-nine percent of approximately 100,000 restaurants registered in Taiwan have turnovers below NT\$100 million. These restaurants primarily belong to small and medium corporations or common micro-entrepreneurships. Notable restaurants operate under famous regional or local brands. From the market perspective, various domestic catering patterns are readily available; thus, alternatives can be easily selected. Additionally, other retailers and retailers (i.e., convenience stores, wholesale stores, and superstores) successively provide cooked food and ready-to-eat food products (e.g., microwave meals and meal packs). The successive entrance of these businesses divided the market and caused intense competition within the restaurant market. This caused a common effect in the industrial environment to occur, in which entrance requirements are low and employee turnover rate is high.

After a total transformation was achieved after a year of focusing on restaurant businesses, Wowprime established operation models of restaurant management and

systems. In addition to the gradually saturated domestic high-priced steak market, the operation risks and future development against intense domestic competition and various possible considerations such as up-flowing internal talents have become challenges that the company must consider extensively.

### *Turnaround Process*

The process of retaining talents and increasing the internal strength of the company while expanding external development led President Day to recollect the qualities of the Cantonese dragon dance, which features uniquely styled dragons dancing on a stage that attracts the attention of the crowd and motivates the dancers through cheers. This type of motivation can be observed in the field of business and results in a company's external growth and staff members' internal entrepreneurship. In 2001, the *Lion Dance Project* was promoted to implement Wowprime's new internal entrepreneurship plan.

In this plan, the president identifies talents with entrepreneur qualities and characteristics in the group and provides them with a business stage on which to develop their own restaurants. Moreover, multibrand expansion is supported by the company's internal resources. Thus, the core concept of the Lion Dance Project is to continually replicate success experiences achieved by the brand and the operation of Wang Steak and adopt the multibrand direction. In summary, all

staff members in the Wowprime group have the opportunity to become the company's shareholder; through the Lion Dance Project, everyone has the opportunity to engage in internal entrepreneurship in this group.

Vice President Chen, who exhibited the most courage and enthusiasm as an entrepreneur, became the group pioneer who created the mid-scale Western steak establishment, TASTy, and became the first *lion king* to succeed in entrepreneurship. The following year, General Manager Wang, who managed the company's staff department operations, established Tokiya, which is primarily based on creative Japanese cuisine. Within the same year, another general manager, Lee, traveled to the United States and established Porterhouse Bistro in Beverly Hills and initiated overseas business on behalf of Wowprime. In 2003, Vice President Chen established Wang Steak in China by successfully opening the first restaurant in Shanghai.

The encouragement of domestic and international entrepreneurship success provided by the first-generation lion kings prompted the company to proceed with the second phase of the brand placement process. In 2004, General Manager Tsao established Yakiyan, which features table grill. Subsequently, Giguu, a Hokkaido kelp pot restaurant, was established by General Manager Lee, who already had entrepreneurial experience. In the following year, General Manager Wang introduced ikki, which offers creative Japanese kaiseki cuisine. In the same year,



Chief Financial Officer Yang, who had an accounting background, successfully established the Chamonix, a teppanyaki restaurant based on the demand for a romantic French setting.

Encouraged by the Lion Dance Project, Wowprime expects two new innovative patterned restaurant brands to be introduced within 2 years. Through this plan, new lion kings (new brands) and lion king candidates (determined by the president; a year is required to plan a new brand) will successively emerge every year.

#### *Turnaround Analysis and Propositions*

In the turnaround scenario, Wowprime adopted the Lion Dance Project's turnaround strategy. The characteristics of the project are multibrand derived product differentiation, market segmentation, and company growth strategies integrated with the internal entrepreneurship system. Thus, Wowprime adopted entrepreneurial oriented strategies focused on reorienting the product market and increasing revenue.

The actual processes conducted in the Lion Dance Project involved the chairman selecting the company's most capable entrepreneur and the most courageous staff members who would dare to produce innovations to create new restaurant brands and engage in restaurant expansion. The company headquarters provides support in operation management including production, sales, human

resources, research and development, and finance. Additionally, tacit knowledge is transferred and learning curve effectiveness is enhanced through cross-holding, collective decision making, and the sharing of experiences with branch expansion among various branches. This increases the company's economies of scale and expands the economies of scope of the operation types.

In summary, this is a strategy in which entrepreneurship opportunities are increased during the entrepreneurship process. Additionally, financial and management operation risks are minimized and prevented to achieve the up-flow of various levels of internal staff members and external lateral expansion to increase the number of additional startup businesses.

*Proposition 2-a: Strategic turnaround strategies must focus on reorienting the company's product market, developing niche markets, and integrating internal resources for maximal utilize.*

*Proposition 2-b: Strategic turnaround strategies can be combined with the company's internal entrepreneurship system and become an entrepreneurial-oriented strategy.*

#### *Strategic Implications for Both Turnarounds*

Wowprime's reform response strategy was inspected and verified in this study. In

summary, the two response strategies encountered by Wowprime verified Allaire's (1985) results. Based on current conditions and the degree of coordination in future environments, decision makers must determine the degree of influence that company crises exert on the organization during urgent times. Table 1. describes the four major reform strategies of reorientation, transformation, turnaround, and revitalization and the corresponding strategies used by Wowprime.

Additionally, the results of this case study agreed with those of Lee (1987), in which crisis response strategies were divided into the three basic strategies of reduction (discard useless portions and keep essential portions), restructuring (focused operation and internal entrepreneurship), and growth (multibrand, multiproduct, and multimarket). The steps executed in these strategies also conformed to and coordinated with the three processes (i.e., withdrawal, strengthening, and progress) executed in crisis response.

*Proposition 3-a: During crisis response, the company can execute responses to changes in crisis during the withdrawal, strengthening, and progress periods.*

*Proposition 3-b: During the strategic process of crisis response, the company can respond to changes in crisis during the three strategic-reform periods of reduction, restructuring, and growth.*

Corporation bodies are not solely management units but centers of resource pooling. The resource distribution and application timing are decided through management strategies. If firm executives can adopt suitable strategies, corporation resources can be fully used to initiate corporate growth. Thus, support for corporate growth can be provided by managers who wish to fully use the company's current resources to enhance organizational performance. Furthermore, strategic choices and changes can reflect the development of an organization over time. Managers who consider the limitations of the existing business scope or are motivated by various strategic intentions choose specific strategies to sustain corporate growth.

*Proposition 4: The leadership pattern and style of the company's entrepreneurs can be adjusted in accordance with differences in companies' organizational process.*

## Conclusion

Based on the aforementioned research results, the following conclusion and recommendations (consisting of three points derived from the implications of practical operations) are proposed.

First, a standard model for new products and market operations should be established as a basis for replicating brands by systemizing and establishing ability and experience transfer mechanisms. In addition, various standard operating procedures in-

volving the use of the most suitable operating methods, determined through the expansion process, should be established as a basis for future internationalization. Before the

domestic market becomes saturated, overseas markets and internationalization processes should be planned and platforms should be simultaneously provided to core executive members for enhancing future

Table 1. Key reform strategies and the corresponding strategies in the Case Study

Reform strategy	Status	Characteristics
<b>1. Progressive change</b>	Harmony, consistency	<ul style="list-style-type: none"> <li>● Organizational strategy matches the current environment and can be used to predict future environmental changes.</li> </ul>
<b>2. Temporary change</b>	Temporary imbalance	<ul style="list-style-type: none"> <li>● Organizational strategy cannot match the current environment, which causes a temporary decrease in performance level. However, the strategy adopted by the organization matches future environmental changes, and current environmental changes are temporary when organizations do not require to make substantial changes to their current strategic directions.</li> </ul>
<b>3. Transformation or reorientation</b>	Transformation or re-orientation	<ul style="list-style-type: none"> <li>● Organizational strategy matches the current environment and provides satisfactory performance, but the organization predicts drastic changes in future environments (i.e., fluctuating competition in the international and domestic catering industry, deregulation in China). Organizations quickly respond to environmental changes to maintain a competitive edge and sustain growth.</li> <li>● Wowprime case: Organizational strategy based on various operation models or the transfer of portions of company resources to attractive target markets or industries.</li> </ul>
<b>4. Revitalization and turnaround</b>	Turnaround, revitalization	<ul style="list-style-type: none"> <li>● Organizational strategy cannot match the current environment and performance (performance declines) and cannot be used to coordinate future environmental changes. A lack of immediate improvement can result in survival crisis. Thus, the organization must adopt timely response actions to prevent further deterioration and reverse situations.</li> <li>● Wowprime case: The Lion Dance Project turnaround strategy.</li> </ul>

prospects and realizing personal goals. This can increase the input of organizational commitments. Moreover, the leadership pattern and style of company entrepreneurs can be adjusted in accordance with the varying organizational process of companies.

This study was limited to partial subjective classification for the growth period of an individual corporation, and limited by the inability to gain insight into the actual decision-making process of firm executives. Nevertheless, the study provided the following contributions: In addition to integrating the currently constructing theory of the entrepreneurial process and determining the various resources required in specific growth periods of the corporation, the results of this study expanded the research on organizational growth, which primarily concerns the evolution of firm capabilities.

Second, we followed Ahuja and Lampert (2001) introduced their suggestion and disregarded positivistic research programs (i.e., causality is determined using variables and hypothesis verification). By contrast, a historical review and analysis explanation from an overall perspective was conducted to investigate mutual relationships between social contexts and corporation actions taken by corporations during strategy changing processes. Regarding management implications, this study confirmed and further emphasized the long-valued corporation uniqueness of corporations in the strategic field. This revealed strategies adopted by corpora-

tion organizations, on which the in-depth influences were influenced by factors such as operational background, historical tracks, company resources, and strategic intentions. Therefore, strategic growth is also path dependent and reflected to a certain degree by the company's various strategic development tracks.

Third, relevant directions for future studies are recommended as follows.

First, Ahuja and Lampert (2001) proposed that procedural studies can be summarized based on three methods: procedures can be considered as (a) causal relationships between variables; (b) personal or organizational conceptual scopes; and (c) a historical record describing changes caused by certain events. As presented in this study, the third method allowed enabled researchers to directly and entirely describe changing processes of that occur during events. However, relevant studies are scarce and, therefore, unwarranted, which awaits scholarly commitments.

Second, this study adopted a procedural perspective and qualitative methods to investigate topics concerning corporate growth and strategy change. However, researchers must understand that the variation theory remains crucial in the study of management. Thus, the causal relationship between development and measures of corporate growth variables (i.e., using independent variables such as operational background, organization

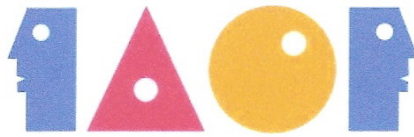
paths, resource requirements, and strategic intentions as causes and dependent variables

such as strategic choices and changes as effects) remains a viable research direction.

## References

- Ahuja, G. & Lampert, C. M. (2001). Entrepreneurship in the Large Corporation: a Longitudinal Study of How Established Firms Create Break- Through Invention, *Strategic Management Journal*, 22(6), 521-543.
- Allaire, Y. & Firsirotu, M. (1985). How to Implement Radical Strategies in Organizations, *Sloan Management Review*, 26(3), 19-34.
- Bibeault, D.G. (1982). Corporate Turnaround: How Managers Turn Losers Into Winners. New York: McGraw-Hill.
- Bruton, G.D., & Rubanik, Y.T. (1997). Turnaround of high technology firms in Russia: the case of Micron. *Academy of Management Executive*, 11 (2), 68–79.
- Chowdhury, S.D. (2002). Turnarounds: A Stage Theory Perspective. *Canadian Journal of Administrative Sciences*, 19 (3), 249–276.
- Eisenhardt, K.M. & Graebner, M.E. (2007). Theory Building from Cases: Opportunities and Challenges, *Academy of Management Journal*, 50(1), 25-32.
- Eisenhardt, K.M. (1989). Building Theories from Case Study Research, *Academy of Management Review*, 14(4), 532-550.
- Elwood, C.M., & Tse, E.C. (1991). Strategic implications of organizational decline in the hospitality industry. *SECHRIE Research and Review Journal*, 3 (1), 1–14.
- Hambrick, D.C., & Schechter, S.M. (1983). Turnaround strategies for mature industrial-product business units. *Academy of Management Journal*, 26, 231–248.
- Hofer, C.W. (1980). Turnaround strategies. *Journal of Business Strategy*, 1, 19–31.
- Ibrahim, A. B., Soufani, K., & Lam, J. (2001). A study of succession in a family firm. *Family Business Review*, 14(3), 245–258.
- Kuckartz, U. (2001). MAX. Qualitative Data Analysis Reference Manual. Berlin: Verbi Software.
- Lee, J.F. (1987). A study of corporate crisis detection and reaction processes in Taiwan, Taipei: China Productivity Center.

- Lincoln, Y.S. & Guba, E.G. (1985). *Naturalistic Inquiry*, Beverly Hills, CA.: Sage.
- Pearce, J.A., & Robbins, D.K. (1993). Toward Improved Theory and Research on Business Turnaround. *Journal of Management*, 19 (3), 613–636.
- Schendel, D.E., Patton, R., & Riggs, J. (1976). Corporate Turnaround Strategies: a Study of Profit Decline and Recovery. *Journal of General Management*, 3, 3–11.
- Scherrer, P.S. (2003). Management Turnarounds: Diagnosing Business Ailments. *Corporate Governance*, 3 (4), 52.
- Sloma, R. (1985). *The Turnaround Manager's Handbook*, Free Press: New York.
- Suzuki, N. (1985). The Cross-National Comparison of Turnaround Strategies: The US and Japan. *Academy of Management Proceedings*, 103–107.
- Tse, E.C., & Olsen, M.D. (1999). Strategic Management Chapter 18. In: Bob, B. (Ed.), *The Handbook of Contemporary Hospitality Management Research*, New York: Wiley.
- Umbreit, T.W. (1996). Fairmont Hotels' Turnaround Strategy. *Cornell Hotel and Restaurant Administration Quarterly*, 37 (4), 50–57.
- Yin, R.K. (1994). *Case Study Research: Design and Methods*, 2nd ed., Newbury Park, CA.: Sage.



JOB INSECURITY AND OTHER LEADERSHIP ISSUES  
IN ORGANIZATIONS

Eddie D. Lawton Jr.  
School of Business and Public Administration  
University of the District of Columbia  
Washington, DC, USA  
eddie.lawton@udc.edu

Fikru Taye  
School of Business and Public Administration  
University of the District of Columbia  
Washington, DC, USA  
fikru.taye@udc.edu

Sergey Ivanov  
School of Business and Public Administration  
University of the District of Columbia  
Washington, DC, USA  
sivanov@udc.edu

Abstract

This paper discusses organizational and leadership issues in the work environment, from the executive level down to the hourly employee. It explains how job insecurity and organizational shortfalls are caused by the decisions made by organization's leaders. The authors analyze recruiting and promotion practices, as well as the adverse effects of employee ranking and internal employee competition. The authors use Deming's work as a theoretical base to provide practical solutions to business leaders.

Key Words: organizational improvement, business leadership, recruiting practices, ranking systems, internal competition, wasteful activities, W. Edwards Deming, Elliott Jaques, Fear, Fear in Organizations

Introduction

Despite their size and complexity, today's organizations deal with instability, employee job insecurity, and

other leadership issues. In general, these issues can be attributed to flawed management practices. At the forefront of this practice lies a collection of incompetent leaders who are lacking in

character, motivation, unable to adapt and anticipate changes (Dixon, 1976), (Ricks, 2012). Most significantly, these leaders do not have the knowledge or capacity to lead an organization as a system of shared aims and values.

### Recruiting Practices

Few organizations have qualified executive leaders. Leaders, at all levels, are appointed based on loyalty and personal relationships with executive leaders, instead of merit. As a result, the organization is not motivated to create an inspired environment to achieve high performance (Ivanov, 2011, 2012, 2013, 2104).

When people are appointed to positions for which they are not qualified, this often leads to major blows to the successful operating of the organization.

Recruiting practices in all organizations claim to be fair and non-discriminatory. In reality, hiring practices in most organizations favor nepotism-based method to fill a position, disqualifying good candidates from the outset. The new leaders exhibit incompetence through dictatorial leadership, characterized by lack of planning, execution, and understanding of the job.

Such leaders are incapable to motivate staff and lack self-confidence, turning subordinates into passive and dispensable property (Harvey, 1988, 1999). They often mismanage organizational resources by outsourcing potential in-house tasks to external organizations. These inept leaders justify their decision-making because of shortage of time, performance, and

other causes to hide their lack of planning and inaptitude.

### Ranking Systems

A common management practice in organizations is to rank employees. The outcome of such practice is loss in employee performance and morale. An employee who works diligently toward earning the highest rating of score 5, but only receives score 4, is likely to become demoralized (Deming, 1992, 1993). This imbalance leads to loss in performance, and, in a good economy, potential resignation. The loss of personnel causes stress on other employees because they are left to fill the void until a replacement can be found and trained. Even then, several months, and even years are required for the new hire to overcome the learning curve, furthering the loss in the organizational capability.

Measuring a person in the workplace is an fundamentally unfair procedure, as Deming shows (1992, 1993) because there is no consideration for the organizational system in which the employee functions. These pseudo-measurements depict false performance information. Deming (1992) suggests in his Red Bean Experiment, that if the operational procedures are flawed, then the outcome will be negative or unpredictable at best regardless of the willingness of the worker.

Ranking systems should be replaced with coaching. When a good coach notices a player doing something that is counterproductive to winning, the coach corrects that action immediately; he does not wait until the end of the season, or year, to do performance appraisal of the players (Ivanov, 2014).



When leading in a business environment, managers should adhere to the same practices, correcting problems when they appear. This would also reduce loss by correcting non-beneficial activities right away.

Counterproductively, most organizations use performance appraisal systems to evaluate employees. This evil is conducted once or twice a year, demoralizing all involved. The evaluation, inaccurately, attempts to take a snapshot of the employee's performance throughout a year. It is difficult enough to do, and unfair; most sensible managers simply assign proper numbers to protect their staff, gaming the system. Less than honorable managers, misuse the system and game the organization by making it fire employees these managers do not like. Moreover, the ranking system creates competition within the organization rather than cooperation amongst employees. The consequence is the loss in overall performance of the organization.

### Internal Competition

In order to get the maximum effort from workers, the problem Taylor (1911) has first described in his Scientific Management papers some years ago, many managers like to introduce a system of competition amongst employees. This does not work. This method begets division in the workforce, damaging the entire organization. This competition approach focuses more on individual success than on the overall good of the corporation. Competition does not promote transparency, sharing of resources, or collaboration (Deming, 1992, 1993), (Ivanov, 2013, 2014). The negative outcomes of competition are:

- internal conflicts between the competing forces
- task redundancy because information is not shared
- minimization of overall potential due to segmentation or even sabotage as one group may feel the need to create an advantage over the other(s).

Business leaders should encourage cooperation instead of competition in their organizations. Current industries should be managed as holistic systems that are held together by a common goal. Groups within the organization should interact. Not only should employees know their roles, they should also understand how their responsibilities relate to others in the firm. By understanding and appreciating how one's tasks affect the entire organization creates a sense of worth and pride in workmanship (Deming, 1992, 1993).

### Job Insecurity

Job insecurity in today's organizations is partly caused by lack of trust between staff and management. There is no direct channel of communication between staff and management, with most correspondence sent through digital means or mass media, creating major communication gaps between executive leaders and employees. For example, while working for a top ranked international firm in an office of nearly 100 employees, employees had no interaction with the office manager or vice president of the company for over five years of their employment with the company. No surprise the top management is detached from rank and file employees.

## Profits First

Leaders show greedy nature, focusing on maintaining short-term profit at all costs, instead of establishing vision for the wellbeing of the organization in its entirety in the long-term. For example, Heinz CEO received \$110.5 mln compensation when the firm reported a net loss of over \$70mln; the CEO closed factories and laid off thousands of employees, but did not take any reduction in his pay (BBC News, 2014). Lehman Brothers CEO received close to \$500mln compensation when the company went into bankruptcy.

Such behaviors and greed speak to the employees that CEO-profits come first. Machiavelli (1505) warns of dangers of such leaders, who are focused on their own private needs.

When leaders are focused primarily on themselves, they concentrate on short-term goals, such as raising the stock and dividends of a company, instead of planning for the long term. Employees suffer a great deal of stress over losing their jobs and dealing with the circumstances afterwards: personal, health, family, social, economic, and others. Lynch (2000), Deming (1992, 1993), Jaques (2002), Ivanov (2013, 2014), Taylor (1911), Harvey (1996), Wilkinson (1996), and other scholars describe various outcomes of human loneliness, and depression.

Leaders should be able to anticipate, prepare, and align the organization's operations, products, and services to customers' current and future needs, and changing business dynamics. Some organizations today conduct market research only after their products are released, possibly boosting

short-term sales of the products, but still suffering long-term loss of revenue. Lack of planning and investment into future products and services (Ivanov, 2014) occur because of the autocratic nature and ego of senior management to meet instant goals, a treacherous strategy that costs the rank and file employees' their jobs.

Employees of any organization are mostly working hard to make sure that their organizations are stable and protected from bankruptcy. Productivity and innovative edge of employees decreases due to job insecurity. Ivanov (2011, 2012, 2013, 2014) describes this harmful paradigm as feararchy, in which fear stagnates the organization.

When the company goes under, employees understand that their jobs, pensions, and all benefits will be swept away. It was just a recent history that leaders of organizations during financial crisis were not held accountable for their actions, but rather received rewarding bonuses.

Employees are treated as cost and dispensable property of a company instead of human beings vital to the existence of the organization. This attitude must change if the organization to attain long-term success. When treated as dispensable, people develop anxiety whenever there is a shortage of task assignment, sensing the organization could be in an unstable position.

## Decision-making

The current practice in organizations excludes staff from participating in decision making or learning about the decisions of the executives. This creates disdain between employees and

top management with rank and file considering themselves as non-essential and unimportant to the operation of the organization. Most employees do not feel being part of the organization regardless of their years of employment because they could be laid off or furloughed whenever there is a reduction or loss of profit.

It is irrational when companies make good profits, employees do not receive rewards for their efforts, but when there is reduction or loss in profits, employees take blows leading to insecurity and depression (Harvey, 1996), reducing the overall productivity and creativity, while showing fake and blind compliance and obedience to incompetent management.

In order to solve some organizational issues during hardship, a better practice is proposed by Deming (1992, 1993), having tested it in Japan. This solution, during the times of trouble, puts forth the following business policy:

- 1) cut dividend
- 2) reduce salaries and bonuses of top management
- 3) further reduction for top management
- 4) furlough of the rank and file, and/or early retirement
- 5) cut in pay for those that stay but no job loss

This practice ensures employees know that he/she is a human being and a vital and contributing factor to the future success of the organization.

#### Societal Implications

When employees of major organizations lose jobs, their family welfare suffers leading to social burden in the overall system. This leads to reduction in spending, innovation, inability to pay bills, mortgage, growing family needs, and overall lack of participation in the economy.

In the U.S., after a job loss, employees face multiple challenges before finding another job. Their pay checks are reduced, employer sponsored health insurance is lost, causing to more panic and loss of money should one become sick, inability to pay mortgage and other bills, depletion of family emergency funds, and, if the situation deepens, become burden on society. Therefore, creating job security and appointing competent organizational leaders ensures everyone's social wellbeing, and a more secure democratic society.

If organizations take responsibility to plan long-term successes, and care for their employees, business opportunities may flourish, consumer spending increase, personal entrepreneurship may grow, all leading to success and win-win situation for most participants.

#### Focus on the Future

The Deming (1992, 1993) assesses that most leaders in current organizations are focused on management by objectives (MBO) or management by results (MBR). MBO assumes as long as every component accomplishes its share, the overall performance would be achieved, but this supposition fails to take the interdependence of components working as a system to achieve optimization. The MBR

approach focuses on outcomes, but not on the root causes, while the main challenges are to understand and improve the root processes that cause the faults in the system.

In order to maintain stability, and consequently, guarantee employees job security, we recommend that organizations are managed as holistic systems. Deming writes (1992), a system is a network of interdependent components that work together to try to accomplish the given aim. Organizations should define their aim, which should be based on long-term thinking. Organizations with short-term thinking, aiming to survive only for the day, are not managed as systems.

#### Possible Solutions

Abolish ranking in organizations, focus on long term planning, give everyone a chance to take pride in their work, aim for everybody in the system to gain over the long term are some of the initial steps toward improving organizations.

Yunus (2007, 2010) explains the social business approach and its potential role in finding solutions for social issues in impoverished and disadvantaged communities. A social business solution consists of entrepreneurship, creating new jobs, and reducing general anxiety.

When employees lose jobs, the government social safety net, in the United States, provides support only for a short period of time; for instance, unemployment insurance, and six months of health insurance. After that, the person is left on his own without any financial support or help. This is

not a proper way to build a good and stable society.

Most major issues, including job insecurity, should be resolved with a different approach. The government could facilitate job creation by providing tax incentives for micro financing, as Yunus has successfully demonstrated in Bangladeshi poorest villages, and other types of credit to boost the economy. Such endeavors could help improve the overall welfare of the public, a necessary component for businesses to thrive. All of these approaches would then contribute to the overall health of the republic (Wilkinson, 1996), (Lynch, 2000).

Low-level workers and middle managers do not have the power to implement fundamental organizational change. Therefore, it is the responsibility of executive management to recognize insecurity in organizations, and devise innovative ways to eliminate such toxins. An effective way to learn what is going on inside the organization is to establish a feedback system.

Employees should freely express themselves without the fear of retaliation. This way the workers are allowed to critique the processes in the system for the purpose of continuously improving the business and its systems.

Leadership should set up time to gather its own intelligence aside from the information that is being reported from their managers (Clement, 2014). Executives who do not collect their own data to make good business decisions put the organization at serious risk. Former Veteran Affairs Secretary Eric Shinseki was guilty of this, which ultimately cost him his job.

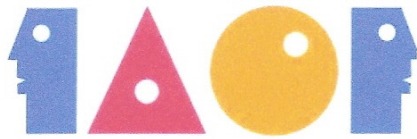
Forward thinking leaders understand that the most important asset that the organization has is its people. Retention of high performing employees is necessary in order to maintain a healthy system. People generally possess more skills and talents than their jobs require them to display. Competent managers often explore these abilities by allowing team members to contribute in specific projects. By using employees' skills fully allows the organization to retain motivated employees, pay them higher wages, and overall increase the organizational performance and productivity (Taylor, 1911).

In order for employees to feel secure, it is also important for them to have opportunities: acquire new knowledge, skills, and education to further their career aspirations. Good employees always seek growth opportunities. If these prospects are not available, the company can expect a higher turnover in a good economy, and unmotivated workforce. Leaders must address all of these issues to build viable, healthy, and long-term-oriented stable and profitable organizations.

#### References

- (2014). Former Heinz boss in \$110m payday as layoffs continue. [www.bbc.com/news/business-26523828](http://www.bbc.com/news/business-26523828)
- Clement, Stephen D., Clement, Christopher R. (2013). It's All About Work: Organizing Your Company To Get Work Done. The Woodlands, TX: Organizational Design Inc.
- Clement, Stephen D. (2014). On Leadership (in Organizations): Role of a Leader, Conversation with MBA Students. [http://www.youtube.com/watch?v=5\\_osaPs3Pa4&feature=youtu.be](http://www.youtube.com/watch?v=5_osaPs3Pa4&feature=youtu.be): School of Business and Public Administration, University of the District of Columbia.
- Deming, W. Edwards (1992). Out of the Crisis. Cambridge, MA: Massachusetts Institute of Technology.
- Deming, W. Edwards (1993). The New Economics: For Industry, Government, Education. Cambridge, MA: Massachusetts Institute of Technology.
- Dixon, Norman (1976). On the Psychology of Military Incompetence. London, UK: Jonathan Cape Ltd.
- Dixon, Norman F. (1987). Our Own Worst Enemy: The Controversial New Study of Human Behavior - And The Threat It Poses To Man Himself. London, U.K.: Jonathan Cape Ltd.
- Harvey, Jerry B. (1988). The Abilene Paradox and Other Meditations on Management. San Francisco, CA: Jossey-Bass Publishers.
- Harvey, Jerry B. (1999). How Come Every Time I Get Stabbed in the Back, My Fingerprints Are on the Knife?. San Francisco, CA: Jossey-Bass.

- Ivanov, Sergey (2011). Why Organizations Fail. International Association of Organizational Innovation: International Conference of Organizational Innovation.
- Ivanov, Sergey (2012). The Problem of Defects in Modern Organizations: Preliminary Research Findings. International Proceedings of Economics Development and Research: Management and Education Innovation, 37(1), 42-45.
- Ivanov, Sergey (2013). Defects in Modern Organizations: Field Findings and Discovery. International Journal of Innovation, Management and Technology, 4(2), 204-208.
- Ivanov, Sergey (2013). Leaderless Organizations: Why Our Organizations Continue to Fail. 2013 International Business Conference Proceedings: Society for Advancement of Management.
- Ivanov, Sergey (2013). Defects in Modern Organizations: Field Findings and Discovery. International Journal of Innovation, Management and Technology, 4(2), 204-208.
- Ivanov, Sergey (2014). Feararchy and Organizations. Melbourne, Australia: Swinburne University of Technology.
- Jaques, Elliott (1990). In Praise of Hierarchy. Harvard Business Review, 68(1), 127-133.
- Jaques, Elliott (2002). Suggested concepts for "Space" and "Time". Gloucester, MA: Unpublished Paper.
- Lynch, James J. (2000). A Cry Unheard: New Insights into the Medical Consequences of Loneliness. Baltimore, MD: Bancroft Press.
- Lynch, James J. (1978). The Broken Heart: Medical Consequences of Loneliness. U.S.: Basic Books.
- Lynch, James J. (2007). Phone Conversation.
- Machiavelli, Niccolo (1505). The Prince. New York, NY: Airmont Publishing Company, Inc.
- Ricks, Thomas E. (2012). The Generals: American Military Command from World War II to Today. New York, NY: The Penguin Press.
- Taylor, Frederick Winslow (1911). The Principles of Scientific Management. New York, NY: W. W. Norton & Company, Inc.
- Wilkinson, Richard G. (1996). Unhealthy Societies: The Afflictions of Inequality. New York, NY: Routledge.
- Yunus, Muhammad (2007). Creating a World Without Poverty: Social Business and the Future of Capitalism. Philadelphia, PA: Perseus Books Group.
- Yunus, Muhammad (2010). Building Social Business: The New Kind of Capitalism that Serves Humanity's Most Pressing Needs. New York, NY: Perseus Books Group.



INNOVATION STRATEGIES OF LOCAL INTERMEDIARY  
ORGANIZATIONS FOR ENVIRONMENTAL PROTECTION:  
A CASE STUDY OF GREEN ISLAND, TAIWAN

Ren-Fang Chao  
Department of Leisure Management,  
I-Shou University, Taiwan, R.O.C.  
rfchao@isu.edu.tw

Abstract

In order to deliver community co-management, environmental protection work must ultimately be carried out by local environmental protection organizations. However, such organizations often lack knowledge and innovation-related external resources, making the implementation of environmental protection ineffectual. This study introduces the concept of the local intermediary organization for environmental protection (LIOE). LIOEs provide inter-organizational services, which provide knowledge integration and innovation. This study offers a framework for the relationship between LIOEs, internal organizations, external organizations, and environmental management agencies, and uses the example of environmental protection non-profit organizations in Green Island, Taiwan to demonstrate the value and necessity of LIOEs.

Key Words: Sustainable development, non-profit organization, community-based ecotourism, community co-management

Acknowledgement – The author is grateful for the financial support of Ministry of Science and Technology (101-2621-M-214-001) for this study.

Introduction

With the rapid deterioration of the global environment, environmental protection issues have gradually become the focus of national attention. Environmental protection non-profit organizations (NPOs) can be broadly

divided into local, national, and international types of organization. Based on the concept of environment-community symbiosis (Getz and Jamal, 1994), environmental management must ultimately integrate with community residents. In other words, community resi-

dents use local environmental protection organizations to develop and implement action plans.

In the relationship between local, national, and international organizations, national and international conservation organizations often play a supporting role to local organizations, assisting them in their environmental management work. However, national and international environmental protection organizations may not be able to provide appropriate assistance for local needs. This is often the key factor in the inability to sustain local environmental protection work. To solve this problem, based on the structure and operation of environmental protection organizations in Green Island over recent years, this study proposes the concept of local intermediary organizations for environmental protection as a basic strategy for sustainable environmental management work.

### Literature Review

Based on the delivery of environmental sustainable development, environmental protection work requires a great deal of resources (Straughan & Pollack, 2008), and diversification (Bode *et al.*, 2011), which has resulted in a rapid increase in the number of environmental protection organizations. As different organizations pursue various objectives, competition over the allocation of resources may occur, weakening the effectiveness of environmental protection. Therefore, the question of inter-organizational cooperation designed to serve the public interest has been frequently discussed (Bogacz-Wojtanowska, 2011). Previous research has focused on how community organi-

zations and residents participate in environmental protection work (Okazaki, 2008; Reyes-Garcia *et al.*, 2013), or how national or international environmental protection organizations promote environmental protection work (McDermott, 2004; Berkes, 2007). However, the linkages between these organizations have been frequently overlooked.

Community-based ecotourism is generally recognized as an excellent source of funding for community environmental protection (Brightsmith *et al.*, 2008). In this regard, Kiss (2004) argued that aside from an attractive natural landscape and rich flora and fauna, community-based ecotourism requires external support to develop ecotourism. At present, ecotourism may be an effective way to balance conservation and economic development. However, the question of sources of support for the long-term development of ecotourism has become the focus of discussion.

McDermott (2004), whose research focuses on national level intermediary organizations, believed that intermediary organizations have important implications for community development. However, generally speaking, because of the areas of environmental protection work under focus, either national or international non-profit organizations, it is difficult to make a long-term and meaningful investment in community environmental protection work. Local environmental protection organizations require assistance when they are first established and in their subsequent management to guarantee their long-term development. Therefore, the existence of LIOEs to assist the



long-term development of local environmental protection organizations is essential.

In addition, a given locality may contain several environmental protection groups, between which, there is the possibility of both competition and cooperation. Therefore, concerning the management of environmental issues or the pursuit different goals of environmental protection organizations, an appropriate platform for dialogue and communication is considered essential to processes of completion and cooperation. LIOEs are able to play this role.

#### Innovative LIOEs: A Theoretical Framework

Dutrénit *et al.* (2012) argued that innovation intermediary organizations might build a communication bridge between consumers and providers of knowledge. Although innovation involves many complex levels, according to this approach, three major conditions exist that LIOEs must satisfy:

##### 1. Producer or provider of knowledge

Jensen *et al.* (2007) pointed out that innovative knowledge can arise from two modes. The first is the science, technology, and innovation mode (STI-mode), while the second is the doing, using, and interacting mode (DUI-mode). The sources of LIOEs' innovative knowledge include both of these knowledge innovation modes. On the one hand, research surveys in collaboration with academic bodies are developed to explore the nature of environmental issues and develop solutions. On the other hand, Berkes (2004) stresses local and traditional ecological knowledge as an important mechanism

for environmental co-management. Therefore, during the process of interaction with local organizations, the inclusion of local and traditional ecological knowledge can identify unresolved environmental issues and the perspectives of local residents. The integration of the two innovative knowledge modes provides new and accurate knowledge and techniques, providing local organizations that participate in actual environmental protection work the necessary competence to carry out these tasks.

##### 2. Building a communication bridge between consumers and providers of knowledge

Howells (2006) believed that the main functions of innovative intermediary organizations include investigating, identifying, and exchanging issues. Of these functions, exchange can ensure the effective flow of information, providing adequate resources for environmental issues that require urgent solutions. Although new environmental management goals can typically attract significant financial resources (Goldman *et al.*, 2008), this does not indicate that these trends in environmental management respond to local needs. Local needs need to be understood by government departments and businesses with access to resources to ensure that necessary assistance is provided. LIOEs play a communicative and coordinating role between the two sides, ensuring that the provision of environmental protection resources is balanced. In addition, owing to the different objectives of local environmental protection organizations, both cooperation and conflict may occur between local organizations. LIOEs play a mediating role between

local environmental protection organizations.

3. Providing local environmental protection organizations with necessary long-term support and assistance

The establishment of long-term partnership relations is essential for environmental protection (Schwartzman & Zimmerman, 2005). Although national and international environmental protection organizations propose long-term plans for individual issues, eventually all plans end, at which point, the relationship between organizations may change. Therefore, LIOEs must commit to a long-term focus on local development, and act according to an organization's purposes and goals to enable the development of a genuine long-term partnership between LIOEs and local organizations. During this process, aside from identifying local environmental issues that have yet to be resolved, LIOEs provide local organizations that participate in actual environmental protection work with necessary support and assistance, and help identify external resources.

From the three major conditions above, LIOEs and local organizations that participate in actual environmental protection work (internal organizations), academic bodies, government departments, national or international NGOs, and relationships between enterprises (external organizations) are incorporated into the framework shown in Figure 1. Within this framework, local intermediary organizations for environmental protection act as a bridge between internal organizations, external organizations, and environmental management authorities, using innovative

mechanisms such as intermediary organizations to produce a strategy for sustainable local environmental management.

*The Innovative Approach of Local Environmental Protection Intermediary Organizations: The Case of Green Island*

Green Island is located in the west of the Pacific Ocean and has an area of only 17 square kilometers. Coral reefs surround the island. Since the 1990s, Green Island's economic development has centered on tourism. In recent years, tourism has created environmental impacts such as noise and air pollution, and the depletion of marine resources. As a result, environmental consciousness has gradually emerged with the establishment of the Cultural and Ecological Association (CEA), the Ecological Conservation Association (ECA), and the Development Association for Humanism, Tourism, and Ecology (AHTE), as participants in environmental protection work on the island. The three organizations each have their own organizational development goals and targets of environmental concern. However, limited knowledge and resources means that all three organizations face a bottleneck in their development. In addition, despite each of the three organizations' own organizational development goals, both conflict and cooperation remain a possibility between each organization. However, the lack of an appropriate communication platform and intermediary has resulted in a downward trend in overall environmental management effectiveness. In response, in 2011, the Society for Nature and Humanity (SNH) was established. The function of the SNH is primarily

the local organizational services described above, placing it in the category of a LIOE. Osborne *et al.* (2008) suggested that the selection of cases for research on innovative NGOs should be based on the following four conditions: (1) a relatively new organization (established within the past five years), (2) employs salaried staff, (3) has the goal of providing services rather than supporting its members, and (4) is primarily publically funded. As the SNH meets all of these conditions, it is therefore used as our case study to explore the operation of LIOEs on Green Island.

#### *The Role of Local Environmental Protection Intermediary Organizations*

The three organizations in this study (CEA, ECA, and AHTE) were established in response to the damage to the environment, including the marine environment, caused by a large influx of tourists into Green Island, as well as the emergence of local consciousness and a desire to express the distinctive features of the island's local culture. Although each organization has its own issues of environmental concern, limited manpower and funding mean that conflict has emerged between the three organizations over access to resources. However, their individual environmental issues are not entirely independent from each other. There is a certain degree of linkage between the individual environmental issues, meaning that the organizations must cooperate with each other. Although they are all environmental protection organizations from the same locality, competition over resources has meant that the effectiveness of local environmental protection work has been weakened by less than smooth operation of communication and coordination mechanisms.

The causes of the failure of community-based environmental protection measures are typically attributed to ineffectual implementation or conflict between environmental protection and development or individual interests (Redford & Sanderson, 2000; Murphree, 2002; Brosius & Russell, 2003). Regardless of which of the above causes was responsible, the result is a decline in the effectiveness of environmental protection. Competition and containment between the three local environmental protection organizations combined with self-interest considerations has meant that expected environmental protection outcomes have not been attained.

Under such circumstances, the SNH was established to coordinate between the three local environmental protection organizations. In contrast to the local environmental protection organizations that try to maximize participation as an indicator of the effectiveness of organizational development, the SNH recruits experts to provide services to the three local organizations. The services provided include coordination of environmental protection work, personnel training, acting as a communication bridge between government bodies, enterprises, and local organizations, and helping local organizations obtain and plan funding. In other words, the SNH plays a mediating role between internal organizations, external organizations, and management agencies (Figure 1). Through the organizational involvement of SNH, Green Island has gradually developed environmental protection efficacy. Table 1 shows the functions of the LIOE that was created by three local environmental protection organizations on Green Island, and its impact on environmental

protection. It is clear that the presence of a LIOE has been considerably beneficial for local environmental protection work.

*The Innovative Strategy of Local Environmental Protection Intermediary Organizations*

Intermediary organizations face difficulties in managing interactions across the system, making innovative activities a critical part of the work of these organizations (Howells, 2006; Smedlund, 2006). Dutrénit *et al.* (2012) believed that adapting, absorbing, and improving existing knowledge is the most common approach to innovative activities. As an LIOE, when managing relations between different organizations and groups, the SNH uses innovative activities as its strategy. Innovative activities are carried out through the incorporation and integration of knowledge, maximizing the function of the overall environmental protection system. Innovative activities adopted by the SNH are primarily carried out on two dimensions: the integration of environmental issues and the development of social enterprises through developing talent.

By incorporating knowledge from academic bodies, combined with surveys on the traditional ecological knowledge of Green Island, the SNH integrates these two sources of knowledge to provide a source of innovative knowledge for the three local environmental protection organizations. This approach provides environmental protection organizations with new knowledge and techniques to carry out environmental protection work. In addition, this process of knowledge integra-

tion also helps identify new environmental issues, expanding the areas of focus for environmental protection organizations. The different attributes of environmental protection organizations act as a basis for organizational differentiation and avoid the possibility of overall environmental protection efficacy being adversely affected by intense competition for resources.

The question of how to balance environmental protection and economic development has long been a concern in ecological protection work. From the perspective of members of local environmental protection organizations, sufficient income is required to make environmental protection work possible. Kiss (2004) has critiqued the relationship between ecotourism and environmental protection, arguing that the income from ecotourism and other related activities may not be sufficient to satisfy basic needs, and that even where it does deliver economic benefits, it may not have a positive impact on the protection of biodiversity. On this issue, Bennett and Lemelin (2014) argue that these non-profit organizations should be considered a part of the social economy; they believe that the eco-social market economy uses the pursuit of three goals to achieve a balance between a competitive and innovative economy, a focus on social justice, and nature protection. To realize the goal of a social economy, the SNH uses the input of government resources to integrate environmental protection work, which is packaged as volunteer tourism activities, assisting local environmental protection organizations to develop personnel for the operation and management of volunteer tourism, and enabling environmental protection organizations

to achieve a balance between ecological, social, and economic needs.

### Conclusion

Based on the pursuit of sustainable development, community-based environmental protection measures have been regarded as an ideal solution to balancing environmental protection and economic development. The participation of community residents in environmental protection work typically requires the integration, planning, and operation of environmental protection and non-profit organizations. However, local environmental protection organizations are typically faced with inadequate innovative knowledge and techniques, as well as a lack of external resources, creating obstacles to organizational development.

To solve this problem, environmental protection intermediary organizations are both valuable and necessary. This study develops an organizational framework for the relationship between LIOEs, internal organizations, external organizations, and environmental management agencies by applying the service characteristics of LIOEs to create a sustainable system that allows the long-term functioning of environmental protection organizations and agencies. Our analysis of the case of the SNH in Green Island demonstrates both the viability of this framework and the value and necessity of LIOEs.

LIOEs primarily provide a platform for communication and coordination between internal organizations, external organizations, and environmental management agencies. Therefore, LIOEs should produce or supply knowledge, build a communication bridge between consumers and providers of knowledge, and provide local environmental protection organizations with necessary long-term support and assistance. Following these three major characteristics, LIOEs are not directly involved in environmental protection work, but instead, function as organizational units for the integration of knowledge and innovative activities, providing continuous input for organizations involved in actual environmental protection work, and strengthening the effectiveness of the overall environmental protection system.

The LIOEs framework proposed by this study is most suitable for use in areas that have two or more local environmental protection organizations, making it necessary to create a platform for dialogue. In addition, LIOEs should have policy influence, support from the academic community, and good relationships with enterprises in order to provide local environmental protection organizations with appropriate support to sustain environmental protection work.

## References

- Bennett, N. & Lemelin, R. H. (2014). Situating the Eco-Social Economy: Environmental Movements and Conservation Organizations as Catalysts for Social and Economic Development. *Community Development Journal*, 49(1), 69 - 84.
- Berkes, F. (2004). Rethinking community-based conservation. *Conservation biology*, 18(3), 621 - 630.
- Berkes, F. (2007). Community-based conservation in a globalized world. *Proceedings of the National academy of sciences*, 104(39), 15188 - 15193.
- Bode, M., Probert, W., Turner, W. R., Wilson, K. A. & Venter, O. (2011). Conservation planning with multiple organizations and objectives. *Conservation biology*, 25(2), 295 - 304.
- Bogacz-Wojtanowska, E. (2011). Innovative Public Services as a Result of Cooperation of Public and Non-government Organisations. *Contemporary Management Quarterly*, 3, 105 - 114.
- Brightsmith, D. J., Stronza, A. & Holle, K. (2008). Ecotourism, conservation biology, and volunteer tourism: A mutually beneficial triumvirate. *Biological Conservation*, 141(11), 2832 - 2842.
- Brosius, J. P. & Russell, D. (2003). Conservation from above: an anthropological perspective on transboundary protected areas and ecoregional planning. *Journal of sustainable forestry*, 17(1), 39 - 66.
- Dutrénit, G., Rocha-Lackiz, A. & Vera-Cruz, A. O. (2012). Functions of the Intermediary Organizations for Agricultural Innovation in Mexico: The Chiapas Produce Foundation. *Review of Policy Research*, 29(6), 693 - 712.
- Getz, D. & Jamal, T. B. (1994) The environment–community symbiosis: A case of collaborative tourism planning. *Journal of Sustainable Tourism*, 2(3), 152 – 173.
- Goldman, R. L., Tallis, H., Kareiva, P. & Daily, G. C. (2008). Field evidence that ecosystem service projects support biodiversity and diversify options. *Proceedings of the National Academy of Sciences*, 105(27), 9445 - 9448.
- Howells, J. (2006). Intermediation and the role of intermediaries in innovation. *Research policy*, 35(5), 715 - 728.
- Jensen, M. B., Johnson, B., Lorenz, E. & Lundvall, B. Å. (2007). Forms of knowledge and modes of innovation. *Research policy*, 36(5), 680 - 693.
- Kiss, A. (2004). Is community-based ecotourism a good use of biodiversity conservation funds? *Trends in Ecology & Evolution*, 19(5), 232 - 237.
- McDermott, M. (2004). National intermediaries and local community development corporation networks: A view from Cleveland.

- Journal of urban affairs*, 26(2), 171-176.
- Murphree, M. W. (2002). Protected areas and the commons. *Common Property Resource Digest*, 60, 1 - 3.
- Okazaki, E. (2008). A community-based tourism model: Its conception and use. *Journal of Sustainable Tourism*, 16(5), 511 - 529.
- Osborne, S. P., Chew, C. & McLaughlin, K. (2008). The once and future pioneers? The innovative capacity of voluntary organisations and the provision of public services: A longitudinal approach. *Public Management Review*, 10(1), 51 - 70.
- Redford, K. H. & Sanderson, S. E. (2000). Extracting humans from nature. *Conservation Biology*, 14(5), 1362 - 1364.
- Reyes-Garcia, V., Ruiz-Mallen, I., Porter-Bolland, L., Garcia-Frapolli, E., Ellis, E. A., Mendez, E.-M., Pritchard, D. J. & Sanchez-Gonzalez, M.-C. (2013). Local Understandings of Conservation in Southeastern Mexico and Their Implications for Community-Based Conservation as an Alternative Paradigm. *Conservation Biology*, 27(4), 856 - 865.
- Schwartzman, S. & Zimmerman, B. (2005). Conservation alliances with indigenous peoples of the Amazon. *Conservation Biology*, 19(3), 721 - 727.
- Smedlund, A. (2006). The roles of intermediaries in a regional knowledge system. *Journal of Intellectual Capital*, 7(2), 204 - 220.
- Straughan, B. & Pollack, T. (2008). *The broader movement: nonprofit environmental and conservation organizations 1989–2005*. National Center for Charitable Statistics, Washington, D.C.

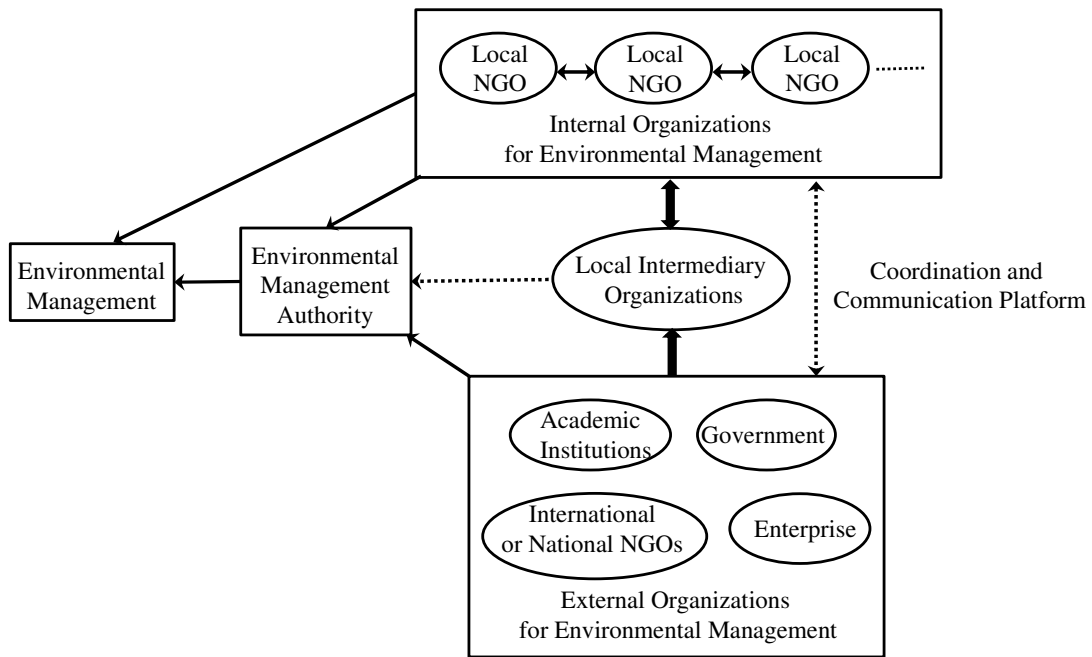
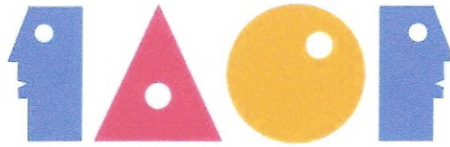


Figure 1. Framework for the Relationship of Local Intermediary Organizations for Environmental Protection with Internal Organizations, External Organizations, and Environmental Management Agencies



Table 1. Specific Assistance Provided to Local Environmental Protection Organizations by Local Intermediary Organizations for Environmental Protection (LIOE) and Actual Environmental Protection Outcomes

Local environmental protection organization	Function of local intermediary organization (Society for Nature and Humanity [SNH])	Actual environmental protection outcomes
Cultural and Ecological Association (CEA)	<ol style="list-style-type: none"> <li>1. Promote nation-wide awareness about the invasion of exotic species to the island and create relevant policy.</li> <li>2. Provide assistance to local organizations regarding the removal of exotic species and appropriate staff training.</li> <li>3. Help local organizations to obtain funding and manage their organizations.</li> <li>4. Transform heavy work on exotic lizard species into ecotourism activities, thereby generating real economic benefits.</li> </ol>	Remove the common sun skink (a species of exotic lizard), and carry out long-term monitoring in order to maintain the numbers and range of this lizard at an acceptable level.
Ecological Conservation Association (ECA)	<ol style="list-style-type: none"> <li>1. Provide training on marine survey methods, data analysis, and staff training.</li> <li>2. Provide survey data to fisheries research institutes to influence policy direction on fishery conservation.</li> <li>3. Help local organizations obtain funding and manage their organizations.</li> </ol>	Indirectly promote the inclusion of Napoleon fish and bumphead parrotfish onto the list of protected species in Taiwan.
Development Association for Humanism, Tourism, and Ecology (AHTE)	<ol style="list-style-type: none"> <li>1. Provide assistance to local organizations in clam surveys and appropriate staff training.</li> <li>2. Build an advocacy platform, and provide environmental education on the protection of clams.</li> <li>3. Communicate with government agencies, prompting the government to develop policy for the protection of clams.</li> <li>4. Help local organizations obtain funding and manage their organizations.</li> </ol>	Implement policy banning tridacna shell fishing.



MAPPING THE INTELLECTUAL STRUCTURE  
OF EDUCATION MANAGEMENT

Chin-Hsiu Tai\*

Graduate School of Business and Operations Management  
Chang Jung Christian University, Taiwan, R.O.C.

\* Corresponding author: a8646165@yahoo.com.tw

Che-Wei Lee

Institute for International Studies in Education  
University of Pittsburgh, U.S.A.

chl138@pitt.edu

Yender Lee

Graduate School of Business and Operations Management  
Chang Jung Christian University, Taiwan, R.O.C.

mcgill\_lee@yahoo.com

Abstract

The aim of this paper was to map the intellectual structure of education management through an investigation of key concepts, themes, and the relationships between them in education management literature. To obtain quantified data to demonstrate the development of education management, this study explored the intellectual structure of education Management research over the last decade by identifying the most important publications, the most influential scholars, and the correlations among the publications in which these scholars appeared. This study uses Bibliometric and social network analysis techniques were used to analyze 41,001 citations of 1,941 articles published in SSCI Journals between 2002 and 2011. We used our results to map a knowledge network of studies related to education Management in order to reveal current trends and provide a valuable resource for researchers seeking to access literature in this area, providing a valuable tool for future research.

Key Words: Education Management, Bibliometrics, Social Network, Citation Analysis, Co-Citation Analysis, Citation-Enhanced Databases, Knowledge Network

## Introduction

Over past few decades, education management has contributed substantially to the economic development of Taiwan. However, determining whether the current form of education management can meet the needs of society in the rapidly changing twenty-first century is a major concern among educators. Education management is not a new concept; nevertheless, it has failed to garner significant attention among researchers. The exploration of education management is a product of the information society and is a quality of knowledge and reflection that gives new meaning and value. Consequently, while there is no doubt that there exists a distinct field of education management, questions on its exact definition, the quality of work being produced, and its prospects and needs for future development remain.

The aim of this study was to provide Education Management researchers with a guide to better navigate Education-Management-related publications by systematically and objectively mapping themes and concepts in the development of this field. This study also attempts to help identify the linkage among different publications and confirm their status and contributions to the development of Education Management. The principal methods employed include citation and co-citation analysis, social network analysis, and factor analysis to identify the network of knowledge generation underlying the literature.

## Literature Review

In this study, education management refers to the allocation and efficient operation of educational resources, including personnel, finances, materials, time, space, and information, to achieve

organizational objectives and coordinating activity processes. Education management involves the macro- and micro-management of educational administration in central and local governments and the internal management of universities, secondary schools, elementary schools, preschools, and adult or occupational schools.

Once the characteristics of education management are known and understood, associated tasks can be undertaken more proficiently. Four characteristics of education management includes (1) purposeful; (2) human-centered; (3) innovative; and (4) informative. Purposeful education management is a conscious and purposeful activity of humankind. For this reason, instinctive activities that are blind and without purpose cannot be considered activities of education management. Second, human-centered management must be centered on humans. Giving priority to the improvement of human qualities, the handling of interpersonal relationships, the satisfaction of human needs, and the maneuvering of active, enthusiastic, and creative tasks of humans all demonstrate human-centered management. Third, innovative education management is constantly changing, thereby promoting social and economic development to increase its productivity. Such innovation in education management is prominent, urgent, and vital. Fourth, in schools, informative education management is an educational activity. The purpose of its tasks is to assess the foundations and objectives of education management tasks. Therefore, the process, behaviour, methods, and content of education management must facilitate education.

Education management is a theoretical and empirical science as well as a

discipline. As educational reforms unfold, significant changes must also occur in education management. In recent years, the government of Taiwan, which previously assumed the role of manager in school education, has instituted policies that turn the leadership in education management over to experts, thereby granting schools greater freedom. Strategies for the use of financial resources have also changed in order to foster competition. Demand for quality in education has emphasized the importance of coordination and cooperation between instructors and their administrative support. Under favorable conditions, the objectives of education management can be achieved in a highly efficient manner. Education management represents a series of coordinated control activities within an education system, divided into educational administrative management and school management.

There are a number of techniques that can be used to study a body of literature. Most commonly used is a literature review in which a highly subjective approach is used to structure the earlier work. Objective, quantitative techniques have recently become popular as more databases become available for online use. These techniques use author citations, co-citations, and systematic reviews (Pilkington & Teichert, 2006) to examine the knowledge network found in the published works in a given field. The appeal of these techniques lies in their objective and unobtrusive nature.

Several studies have used these bibliometric techniques to study management-related literature. For example, Ponzi (2002) explored the intellectual structure and interdisciplinary breadth of Knowledge Management in its early stages of development, using principle component analysis on an author co-citation frequency matrix. Etemad (2004)

identified the most influential authors and studies in Electronic Commerce using citation analysis. Ramos-Rodriguez and Ruiz-Navarro (2004) the intellectual structural changes in Strategic Management research by conducting a bibliometric study of the Strategic Management Journal. Acedo and Casillas (2005) explored the research paradigms of International Management by applying factorial analysis techniques in an author co-citation study. To the best of our knowledge, no similar study has been conducted on current research in Education Management. This study aims to fill this gap by applying citation and co-citation analysis to a representative sample of recent research collected by the Science Citation Index (SCI) and Social Sciences Citation Index (SSCI).

### Methodology

The citation data used in this study includes journal articles, authors, publication outlets, publication dates, and cited references. Based on the objectives of this study, we explored the intellectual structure of Education Management between 2002 and 2011. This time period in Education Management represents the most up-to-date and important research in the field. In order to effectively track development, we further divided this period into two sections: 2002-2006 and 2007-2011. Employing citation and co-citation analysis as our principal methodology, we first identified databases to serve as sources of Education Management publications. We then designed data collection and analysis techniques to collect information about topics, authors, and journals on Education Management research.

In the second stage, the collected data were analyzed and systematized by sorting, screening, summing, subtotaling, and ranking. After a series of operations,

key nodes in the knowledge network were identified and structures developed. In the final stage, we used co-citation analysis to map out a comprehensive description of the knowledge distribution process in Education Management.

The databases selected were SCI and SSCI, which include citations published in over 8000 of the world's leading scholarly journals. While the selection of only two indexes might be considered a limitation, the SCI and SSCI represent the most comprehensive and widely-accepted databases of Education Management publications.

Unlike previous studies, the data used in this study were not drawn from peer-selected journals (Walstrom & Leonard, 2000). Instead, the entire databases of SCI and SSCI from 2002 to 2011 were considered for analysis. In order to collect the data, we used the keyword method, which searches through titles and abstracts. Using "Education Management" as a key-word, we collected 1941 journal articles which further cited 41001 publications as references. The cited references in these papers included both books and journal articles.

## Results

### *Citation analysis*

In order to identify the key publications and scholars that have laid the foundation of education management, citation data were tabulated for each of the 1,941 source documents and 41,001 references using Excel sheet. Table 1 lists the most cited journals in education management from 2002 to 2011, amidst which *DIABETES CARE*, *DIABETES EDUCATOR*, and *BRIT MED J* are the top three most cited journals, followed by *PATIENT EDUC COUNS* and *JAMA-J AM MED ASSOC*.

We considered the most influential documents to be those most frequently cited and the most influential scholars were then identified by their total number of citations within the selected journal articles. Table 2 indicates that the most cited Education Management publication between 2002 and 2006 was Watt's book *Norris S.L., 2001, DIABETES CARE, V24, P561*, followed by Belsley's paper *CLEMENT S, 1995, DIABETES CARE, V18, P1204*, and Miller's paper *BANDURA A, 1977, PSYCHOL REV, V84, P191*, and *Cohen J, 1988, STAT POWER ANAL BEHA*. Table 3 presents that between 2007 and 2011, the most cited Education Management publication was book *Norris S.L., 2002, DIABETES CARE, V25, P1159*, followed by Belsley's paper *Norris S.L., 2001, DIABETES CARE, V24, P561* and *Pfeffer J., 2002, ACAD MANAG LEARN EDU, VI, P78* and *Deakin T., 2005, COCHRANE DB SYST REV*.

Table 4 shows that the top five most cited scholars and associations between 2002 and 2006 were LORIG K., BROWN S. A., GLASGOW R. E., Norris S. L., and American Diabetes Association. Table 5 reveals some scholars became more influential from 2007 to 2011. At this time, the top five most cited scholars were Norris S. L., LORIG K., Brown S. A., Lorig K. R., and Funnell M. M. These seven scholars collectively define the field of education management. Their contributions represent the main focus of research in the field and thus give us an indication of the popularity of certain education management topics as well as their historical value.

Citation analysis does contain an element of bias against younger scholars. A paper-based ranking (used in Tables 2 and 3) places more emphasis on the quality (as opposed to the quantity) of the documents produced by a given scholar

(used in Tables 4 and 5). Tables 2 and 3 represent key research themes and give us an indication of their popularity. Highly ranked citations are associated with what can be termed 'field-defining' titles which lay the foundation for the consideration of Education Management as a distinct phenomenon. A comparison between Tables 2 and 3 reveals some interesting patterns. First, the top two most influential publications in the last decade remain the same, demonstrating their importance to the field. Second, the gradual increase in total citations indicates the evolution of Education Management as an academic field as it gained more recognition in the literature. Third, while the top two most influential documents maintain their status, the significance of other research in the field changes considerably over the time period. This demonstrates the rapidity of development in Education Management.

#### *Co-citation Analysis*

In the next stage, we mapped the data to obtain a visual representation of the intellectual structure of contemporary Education Management studies. Co-citation analysis is a bibliometric technique that involves counting paired or co-cited documents from a chosen field. The results are then compiled in matrix form and statistically scaled to capture a snapshot at a distinct point in time of a changing and evolving structure of knowledge (Small, 1993).

Co-citations were tabulated for each of the source documents using Excel. Many authors had very few co-citations that were either unlikely to have had a significant impact on the development of the field or were too new to have had time to impact on the literature. To facilitate analysis and improve the probability of its success, we ensured that all authors in the final set had at least 30 citations in

the first time period and 30 in the second. Based on the total number of citations in the selected journals, we identified the most influential scholars, and then built a co-citation matrix. This matrix was used to draw a pictorial map describing the correlations among scholars. This procedure was recommended by White and Griffith (1981).

Social network analysis techniques were used in conjunction with UCINET software (Borgatti, Everett, & Freeman, 2002) to graph relationships in the co-citation matrix and identify the strongest links and core areas of interest in Education Management (Pilkington & Teichert, 2006). Figures 1 and 2 show the core research themes drawn from articles with links of greater than or equal to ten co-citations in the network. Different node shapes result from a faction study which groups elements in a network based on common links. The diagrams show that current research in Education Management concentrates on value relevance, empirical educational theory, country-specific factors, and international education standards and educational principles generally accepted in the US. The scholars with the most links (co-citations) stand out as pivotal figures in Education Management research. Their high degree of citation and intensive interlinking indicate their prestigious status in Education Management research. The publications and research work of these influential scholars collectively define the future research directions of Education Management studies.

While Figures 1 and 2 provide a useful broad outline, they represent only the core areas of research. By grouping authors using factor analysis of the co-citation matrix, we determined which authors share common elements in their research. Accordingly, the closeness of au-

thor points on such maps is algorithmically related to their similarity as perceived by citers. We selected *r*-Pearson as a measure of similarity between author pairs. This method registers the likeness in shape of the co-citation count profiles of author pairs (White & McCain, 1998).

Factor analysis on the co-citation correlation matrix was performed using varimax rotation, a commonly used procedure, which attempts to fit (or load) the maximum number of authors on the minimum number of factors. The diagonals were considered missing data and were applied the criterion of omitting the two cases (Meyer & Rowan, 1977).

Five factors were extracted from the data in the first time period (2002–2006); these factors explained over 71.2% of the variance in the correlation matrix. Table 6 lists these factors along with the authors that had a factor loading of at least 0.5. In line with convention, authors with less than a 0.5 loading or with crossloadings were omitted from the final results (White & Griffith, 1981). We assigned names to the factors on the basis of our own interpretation of the authors with high loadings. We found the research in this period included at least three different sub-fields: the sociopolitical role of value relevance in education, institutionalized organizations, empirical educational theories, international education standards, and the history of education (see Figure 1). The second period (2007–2011) produced five significant factors which explained over 82.2% of the variance in the correlation matrix, as pictured in Fig. 2. Table 7 lists these factors along with the authors that had a factor loading of at least 0.5. Interpretation of these authors' publications suggests that during this time Education Management research included at least two key sub-fields: value relevance and, international

education standards versus educational principles generally accepted in the US.

Considering Figure 1 and Table 6, we see that the themes investigated by the most influential authors tend to be similar. We labeled the first factor in Table 6 'Expectancy theory'. This factor is associated with authors Brown S.A., Norris S.L. and Glasgow R.E. The various methodologies developed by philosophers of science are relevant to research on education as organizing, heuristic, and analytical frameworks. If the dangers of scientism can be appreciated by researchers early in the methodological debate within educational literature, subsequent research may perhaps be saved from the dogmatism and many diversions of resources that have resulted in other fields of inquiry and from an unwarranted reverence for science and the scientific method (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1997).

The second factor is associated with work by Barlow J.H., Clark N.M. and Gibson P.G.; we selected the label of 'Self-Management'. Relevance and reliability are the two primary criteria used by committees dedicated to improving educational standards, as specified by its conceptual framework. However, value relevance as defined in the academic literature is not a stated criterion of such committees. Rather, tests of value relevance represent one approach to making such committees operational. The third factor represents 'strategic planning', which is associated with Mintzberg H., Donaldson L. and Alvesson M. Institutional rules may have effects on organizational structures and their implementation in actual technical work which are very different from the effects generated by the networks of social behavior and relationships which compose and surround a given organization. The concepts of institution and institutionalization

have been defined in diverse ways, with substantial variation among approaches.

The fourth factor represents 'Cost-benefit analyses', as investigated by Zarnke K.B., Gallefoss F. and Mcalister F.A.; the fifth factor represents country-specific studies conducted by behavioral sciences, American Diabetes Association and Cohen J.

Table 7 shows that the second period produced a first factor referring to the intrinsic value of Education Management as discussed by Norris S.L., Piette J.D. and Gary T.L. Adoody, Hughes, and Liu (2002) provides strong evidence that conventional value relevance regressions failed to pick up the price effects of information contained in education variables that surface in the future. Based on a model that assumes the intrinsic value of market price measures with error, in order to measure value relevance with respect to intrinsic value, stock price needs to be adjusted for predictable future price changes that may be driven by this measurement error.

The second factor is provided by Mcalister F.A., Mulcahy K. and Reynolds M., have conjectured that the differences in the nature and effectiveness of financial systems around the world can be traced in part to the differences in investor protections against expropriation by insiders, as reflected by legal rules and the quality of their enforcement.

The third factor represents country-specific investigations into Education Management, as conducted by Grey C., Pfeffer J. and Mintzberg H. Ali and Hwang (2000) found that value relevance is lower for countries with educational orientations. In these countries, it seems a small number of banks supply most capital needs of businesses, whereas in

market-oriented financial system numerous diverse investors provide financing. It was also found that value relevance is lower for countries where private-sector bodies are not involved in the standard-setting process.

The fourth factor represents international education standards versus domestic education management as researched by Bodenheimer T., Lorig K. and Wagner E.H. and the fifth factor recognition system research.

### Conclusion

The last decade has seen extensive research on education management. This study investigates Education Management research using citation and co-citation data published in the SSCI between 2002 and 2011. Using a factor analysis of the co-citation data, this study maps the intellectual structure of Education Management research. Our results suggest that contemporary Education Management research is organized along three different concentrations of interests, namely value relevance, empirical educational theories, and international education standards, versus educational principles generally accepted in the US. A holistic view shows that with cooperation among industry, government, academia, and research, the development of education management can be promoted. In addition to establishing societies for education management, universities and colleges have also set up graduate institutes or programs related to education management. In the last decade, the number and quality of academic achievements in this field have improved immensely, which contributes to international standing but also facilitates the domestic development of education management. However, current academic communities associated with education management should support the publishing of related papers in



international journals.

The mapping of the intellectual structure of education management has created its own literature, thereby establishing itself as a legitimate academic field, with Education-Management-specific journals gradually gaining the status required for an independent research field. Given that Education Management is yet young and our analysis has shown

that it has an evolving structure, it is believed that Education Management publication outlets will continue to gain more popularity and prestige. As more scholars and more resources continue to contribute to the field of Education Management, an academic environment conducive to the cross-fertilization of ideas will grow and the development of Education Management as a field will continue to progress.

### References

- Acedo, F. J., & Casillas, J. C. (2005). Current paradigms in the international management field: An author co-citation analysis. *International Business Review*, 14, 619–639.
- Adoody, D., Hughes, J., & Liu, J. (2002). Measuring value relevance in a (possibly) inefficient market. *Journal of Accounting Research*, 40, 965–986.
- Ali, A., & Hwang, L. (2000). Country-specific factors related to financial reporting and the value relevance of accounting data. *Journal of Accounting Research*, 38, 1–21.
- Borgatti, S. P., Everett, M. G., & Freeman, L. C. (2002). *UCINET for windows: Software for social network analysis*. Harvard, MA: Analytic Technologies.
- Etemad, H. (2004). E-commerce: The emergence of a field and its knowledge network. *International Journal of Technology Management*, 28, 776–800.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1997). Legal determinants of external finance. *Journal of Finance*, 52, 1131–1150.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83, 340–363.
- Pilkington, A., & Teichert, T. (2006). Management of technology: Themes, concepts and relationships. *Technovation*, 26, 288–299.
- Ponzi, L. J. (2002). The intellectual structure and interdisciplinary breadth of knowledge management: A bibliometric study of its early stage of development. *Scientometrics*, 55, 259–272.
- Ramos-Rodriguez, A. R., & Ruiz-Navarro, J. (2004). Changes in the intellectual structure of strategic management research: A bibliometric study of the strategic management journal, 1980-2000. *Strategic Management Journal*, 25, 981–1004.
- Small, H. G. (1993). Macro-level changes in the structure of co-citation clusters: 1983-1989. *Scientometrics*, 26, 5–20.
- Walstrom, K. A., & Leonard, L. (2000). Citation classics from the information systems literature. *Information & Management*, 38, 59–72.

White, D. H., & McCain, K. W. (1998). Visualizing a discipline: An author co-citation analysis of information science. *Journal of the American Society for Information Science*, 49, 327–355.

White, H., & Griffith, B. (1981). Author co-citation: A literature measure of intellectual structure. *Journal of the American Society for Information Science*, 32, 163–171.

Table 1. List of the Top 10 Highly Cited Journals, 2002-2011

Rank	Journal	Total no. of citations
1	Diabetes Care	778
2	The Diabetes Educator	464
3	British Medical Journal	305
4	Patient Education and Counselling	282
5	The Journal of the American Medical Association	280
6	The Lancet	213
7	Academy of Management Learning & Education	206
8	The New England Journal of Medicine	165
9	Archives of Internal Medicine (latterly JAMA Internal Medicine)	152
10	Annals of Internal Medicine	140

Table 2. List of the top 10 highly cited references, 2002-2006

Rank	Abbreviated bibliographic entries	Total no. of citations
1	Norris SL, 2001, DIABETES CARE, V24, P561	14
2	Clement S, 1995, Diabetes Care, V18, P1204	10
3	Bandura A, 1977, Psychol Rev, V84, P191,	9
4	Cohen J, 1988, STAT POWER ANAL BEHA	9
5	Lorig K, 1985, Arthritis Rheum, V28, P680,	8
6	Pfeffer J, 2002, ACAD MANAG LEARN EDU, V1, P78	8
7	Shamoon H, 1993, New Engl J Med, V329, P977	8
8	Anderson Rm, 1995, Diabetes Care, V18, P943	7
9	Brown Sa, 1990, Patient Educ Couns, V16, P189	7
10	Lahdensuo A, 1996, BRIT MED J, V312, P748	7

Table 3. List of the top 11 highly cited references, 2007-2011

Rank	Bibliographic Entries	Total no. of citations
1	Norris SL, 2002, DIABETES CARE, V25, P1159	25
2	Norris SL, 2001, DIABETES CARE, V24, P561	22
3	Pfeffer J, 2002, ACAD MANAG LEARN EDU, V1, P78	17
4	Deakin T, 2005, COCHRANE DB SYST REV	14
5	Lorig KR, 2001, MED CARE, V39, P1217	14
6	Coonrod Ba, 1994, DIABETES CARE, V17, P852	13
7	Ellis SE, 2004, PATIENT EDUC COUNS, V52, P97	13
8	Gary TL, 2003, DIABETES EDUCATOR, V29, P488	13
9	Ghoshal S, 2005, ACAD MANAG LEARN EDU, V4, P75	13
10	Barlow J, 2002, PATIENT EDUC COUNS, V48, P177	12
11	Bodenheimer T, 2002, JAMA-J AM MED ASSOC, V288, P2469	12

Table 4. List of the top 10 highly cited authors, 2002-2006

Rank	Author	Total no. of citations
1	K. Lorig	43
2	S. A. Brown	40
3	R. E. Glasgow	37
4	S. L. Norris	27
5	American Diabetes Association	22
6	R. M. Anderson	20
7	F. Gallefoss	19
8	C. Grey	18
9	A. Bandura	17
10	H. Mintzberg	17
11	M. Peyrot	17
12	J.H. Barlow	16

Table 5. List of the top 10 highly cited authors, 2007-2011

Rank	Author	Total no. of citations
1	Susan L. Norris	85
2	Kate Lorig	52
3	S. A. Brown	50
4	Kate R. Lorig	50
5	Martha M. Funnell	41
6	Russell E. GLASGOW	38
7	Roy M. Anderson	36
8	C. Grey	36
9	Dean Tjosvold	36
10	Mark Franklin Peyrot	35

Table 6. Author factor loadings, 2002-2006

<b>Author</b>	<b>Factor 1</b>	<b>Author</b>	<b>Factor 2</b>	<b>Author</b>	<b>Factor 4</b>
Expectancy theory	32.80%	Self-Management	14.40%	Cost-benefit analyses	8%
Brown SA	0.918	Barlow JH	0.726	Zarnke KB	0.702
Norris SL	0.918	Clark NM	0.724	Gallefoss F	0.694
Glasgow RE	0.882	Gibson PG	0.666	Mcalister FA	0.512
Anderson RM	0.854	Lorig KR	0.638	<b>Author</b>	<b>Factor 5</b>
Funnell MM	0.825	Mulcahy K	0.585	behavioral sciences	4.40%
Bodenheimer T	0.732	Bandura A	0.540	American Diabetes Association	0.549
Rubin RR	0.713	Shamoon H	0.522	Cohen J	0.507
Mensing C	0.696	<b>Author</b>	<b>Factor 3</b>		
Peyrot M	0.664	strategic planning	11.60%		
Shamoon H	0.65	Mintzberg H	0.736		
Mulcahy K	0.614	Donaldson L	0.708		
Lorig KR	0.568	Alvesson M.	0.591		
Grey C	0.567	Grey C	0.556		
American Diabetes Association	0.564	Bandura A	0.545		
Clement S	0.556	Pfeffer J	0.529		
Pfeffer J	0.538				
Alvesson M.	0.537				



Table 7. Author factor loadings, 2007-2011

<b>Author</b>	<b>Factor 1</b>	<b>Author</b>	<b>Factor 2</b>	<b>Author</b>	<b>Factor 4</b>
Self-Management Education	38.50%	Contemporary management	17.60%	Health policy	8%
Norris SL	0.964	Mcalister FA	0.896	Bodenheimer T	0.685
Piette JD	0.954	Mulcahy K	0.786	Lorig K	0.614
Gary TL	0.951	Reynolds M	0.785	Wagner EH	0.572
Brown SA	0.918	Campbell NRC	0.686	Rubin RR	0.508
Deakin T	0.906	Yusuf S	0.675	<b>Author</b>	<b>Factor 5</b>
Funnell MM	0.897	Khan NA	0.665	recognition system	5.20%
Siminerio LM	0.892	American Diabetes Association	0.655	Campbell NRC	0.617
Glasgow RE	0.881	Neal C	0.642	Khan NA	0.579
Anderson RM	0.824	Centers For Disease Control And Prevention	0.583		
Lorig K	0.687	<b>Author</b>	<b>Factor 3</b>		
Wagner EH	0.686	management studies	12.90%		
Rubin RR	0.661	Grey C	0.830		
Peyrot M	0.650	Pfeffer J	0.820		
Bodenheimer T	0.597	Mintzberg H	0.817		
Bandura A	0.500	Tjosvold D	0.757		
		Deem R	0.683		

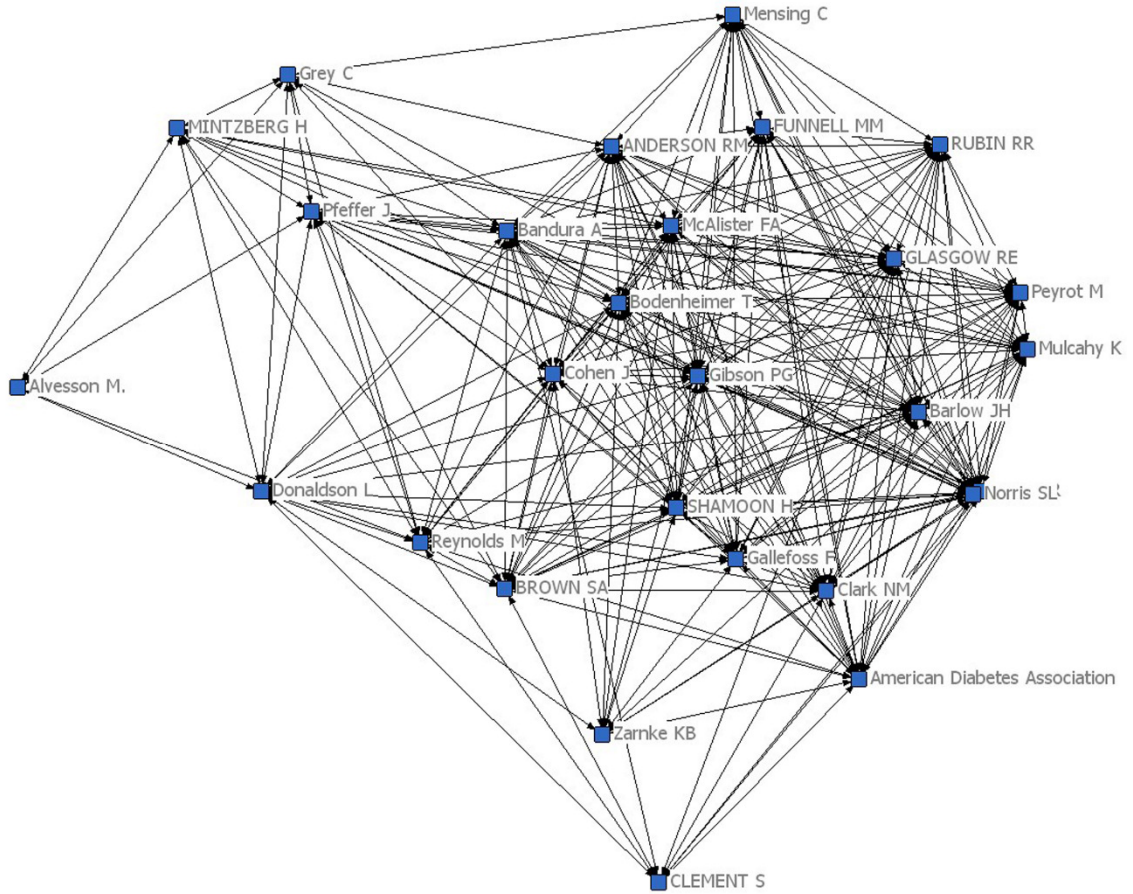


Figure 1. Citation network from the Presidential Addresses in Education Management, 2002-2006.

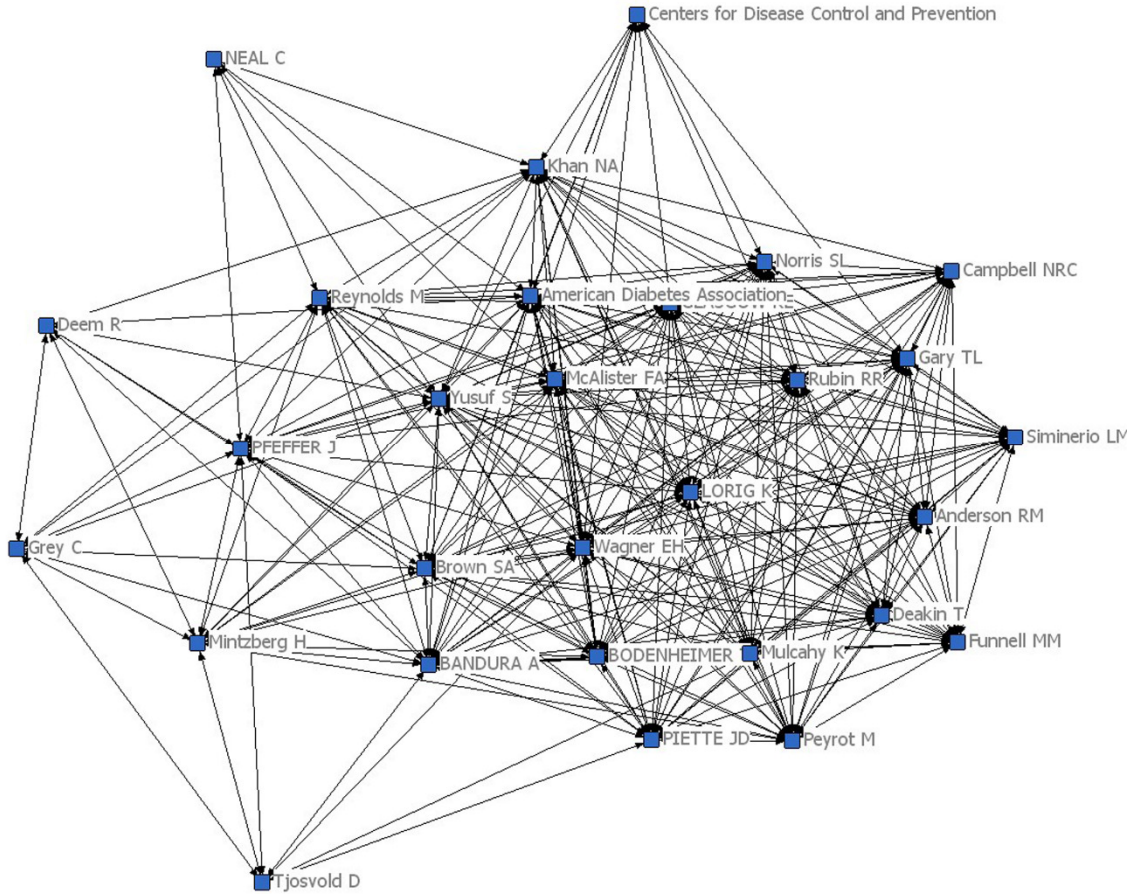
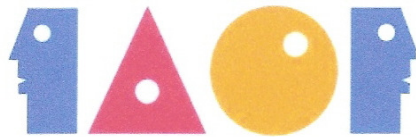


Figure 2. Citation network from the Presidential Addresses in Education Management, 2007-2011.



AN ANALYSIS OF OPTIMIZATION DESIGN OF HIGH-SPEED  
CONNECTORS HEAT-SINK AND THE DESIGN  
IMPROVEMENT TECHNIQUE

Hsu Ming-Chun

Department Of Electrical Engineering  
The College Of Electrical And Communication Engineering  
Yuan Ze University, Taiwan, R.O.C,

Shu-Lung Wang

Department Of Mechanical Engineering,  
Taoyuan Innovation Institute Of Technology, Taiwan, R.O.C,  
[Wzl@Tiit.Edu.Tw](mailto:Wzl@Tiit.Edu.Tw)

Hung-Wen Lin

Department Of Electrical Engineering,  
The College Of Electrical And Communication Engineering  
Yuan Ze University, Taiwan, R.O.C,

Abstract

To connect the computer unit to electronic device extensively, the computer unit and electronic device are mostly equipped with various electric connectors. The general electric connector is composed of two signal terminal pieces set between two ground terminal pieces. However, as the signal terminal pieces and the ground terminal pieces of general electric connector are arranged closely, the effective dielectric coefficient of the signal terminal pieces and the ground terminal pieces of general electric connector is relatively high, so that the loss of electric power of general electric connector increases. In addition, due to the close packing of the signal terminal pieces and the ground terminal pieces of general electric connector,

there is no airflow between the signal terminal pieces and the ground terminal pieces of general electric connector. Therefore, the signal terminal pieces and the ground terminal pieces of general electric connector cannot dissipate heat effectively, and the heat sinking efficiency of general electric connector decreases. This paper proposes a method to improve the heat sinking of two-layer connector effectively for QSFP+ (Quad Small form factor pluggable). The production heat sinking problem is discussed, and the optimum heat sinking process combination test is obtained by using Taguchi Method at last, hoping to attain the best product stabilizing effect.

Keywords : QSFP+, Taguchi Method, Heat sinking

### Introduction

The QSFP connector is connected to the PLUG MODULE, the heat is derived from the IC of PLUG MODULE, different wattages are defined for different series categories, 1.5W, 2.5W, 3.5W and 5W are probable for QSFP. If a two-layer connector is designed improperly, the PLUG MODULE accumulates heat, influencing the performance of IC. The connector has heat sinking problems, and the connector is usually operated in the cabinet with forced convection. This paper proposes a new terminal molding method, which allows the connector generates air channels to improve the heat accumulation of connector. The following figure shows the plastic end difference between terminals generates a gap, so that the air channels are formed inside the plastic body and parallel to the plastic body and the air channels of metal case. This method improves the heat accumulation of current connector obviously, and this method can dissipate heat

without any additional heat sinking components (heat spreader, heat pipe, thermal grease).

### Literature Review

The traditional high-speed connector only connects the peripheries to the mainboard, however, as the demand for bandwidth and the transmission rate increase, the signal integrity of connector has become a very important subject. If the influence of connector is too significant, no matter how fast the server runs, the front connector will reduce the bandwidth and transmission rate. In terms of the production of traditional connector, the engineer draws the plastic mold and metal terminal according to experience.

However, as the data transmission rate and the operating bandwidth increase, the electronic connector must support higher transmission rate and operating fre-

quency. Therefore, the high frequency factor shall be considered in the design, e.g. the joint between test board and terminal, the joint between terminal and plastic, the internal structure of terminal and so on, the aforesaid factors may result in discontinuous impedance of high-speed connector during transmission. The SFP+ high-speed connector specifications define the data transmission rate as 10 Gbps rise/fall, the maximum time value is 34 ps, and the duty cycle data is 20 % to 80 %. The specifications define the differential mode impedance range inside the SFP+ high-speed connector as 90 to 110Ω, applied to detailed specification of 10 Gbps [1-2].

In as early as the 1970's, the computer numerical analysis was not yet applied to the structure of connector industry universally. However, in the 1970's, GOEL aimed at the design of EON terminal, and used mathematical calculation to compute [3] the origin of finite element method which could be traced back to early 20th century, when some scholars used the same discontinuous flexible arm to simulate and shape continuous elasticity. In 1950, the Boeing Company used finite element method and triangular stress element to simulate wing structure. In the 1990s, the finite element analysis technology was popular, and the research scholars used this method in other domains of engineering, such as heat transfer and fluid analyses [4-5]. The overall development technology of high-speed connector contains

mechanical design, characteristic analysis and high frequency characteristic measurement [6].

### Experimental Design Measurement Layout Description

This paper discusses the Analysis of Optimization Design of High-Speed Connectors Heat-Sink in **Error! Reference source not found.**, the Heat sink and electric connector.

#### (1) Ambient temperature setting in

Figure 1. *The Experimental Measurement Layout*

Temperature outside cabinet: 50°C.  
 Temperature inside cabinet: 52°C.  
 Inlet air flow: about 0.5CMM~0.6CMM (m3/min).  
 Working temperature: when PLUG heating plate gives the same power, the lower port temperature in the middle of the existing product is higher than 75°C (75.5°C measured).  
 Test time: steady-state.  
 Note 1: when the temperature reaches the default, the temperature difference within 1°C in one hour is defined as steady-state.

In

Figure 2. (1), description traditional design

due to the close packing of the signal terminal pieces and the ground terminal pieces of general electric connector, there is no airflow between the signal terminal pieces and the ground terminal pieces of general electric connector. Therefore, the signal terminal pieces and the ground terminal pieces of general electric connector cannot dissipate heat effectively,

and the heat sinking efficiency of general electric connector decreases. In Figure 2. (2), description improvement design provides gap between signal terminal pieces and the ground terminal pieces of general electric connector, The gap can provides air through electric connector , improve heat sinking efficiency of electric connector increases.

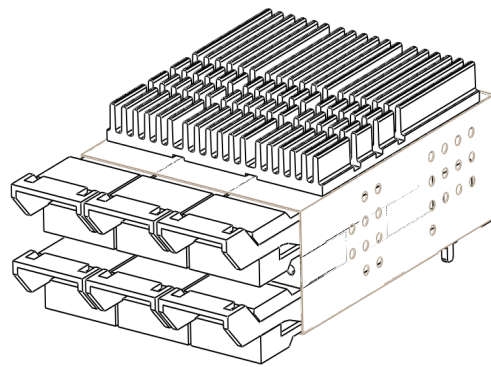
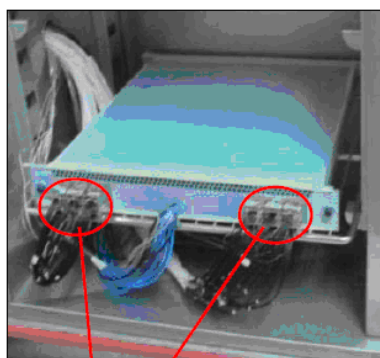
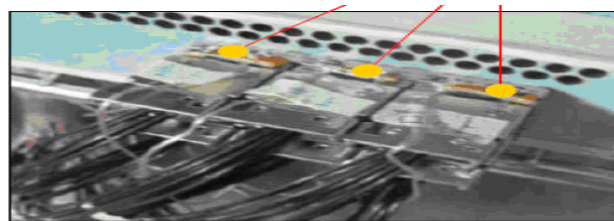


Figure 1. Heat sink and electric connector



Left and right plugs  
(12 measuring  
points)

Measurement position:  
Cable Plug & Cage joint



Measuring points (three  
upper/lower points)

Figure 1, Experimental measurement layout

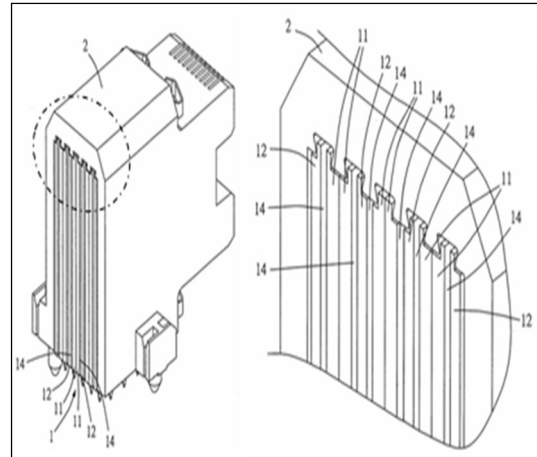
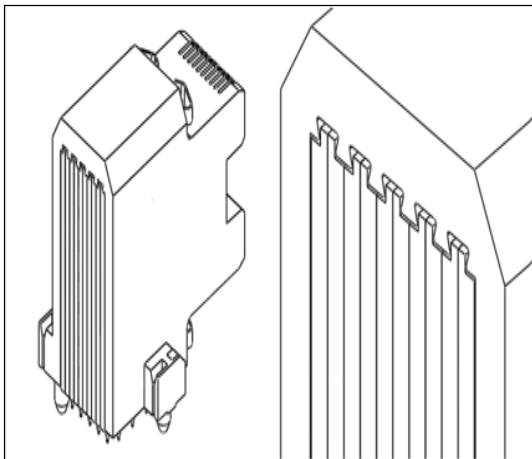


Figure 2, The experiment including (1), Traditional design and (2), Improvement design

*(2) Temperature measurement analysis method for high-speed connector (Introduction to Taguchi Method)*

As there are numerous influencing parameters in the experiment, in order to obtain better design parameters, this study uses the Taguchi quality design method developed by Dr. Taguchi Genichi (also known as robust parameter design) for data analysis (called Design of Experimental (DOE) in the circle).

Optimal experimental combination can be obtained rapidly by fewer experiments (compared with full factorial experiment)

The computing equation for S/N ratio of Small-the-Best characteristic is:

$$SN = -10 \log \left\{ \frac{1}{n} \sum_{i=1}^n \frac{1}{y_i^2} \right\}$$

*3-1 Multi-factorial experimental design steps*

Application test analysis of Taguchi experiment orthogonal array for optimal heat sinking efficiency with different experimental design steps (listed in Figure 3).

*3-2 Orthogonal array selection*

The orthogonal array is represented by La (bc), where L is the orthogonal array; a is the total number of experiments, representing the number of columns represents the times of experiments in the orthogonal array; b is the number of levels, representing that design parameter has b different values, which is determined by the number of design parameters before the design of levels to analyze the impact of various design parameters on target function with least number of experiments;



c is the design parameter or factor, when making the table, the design parameters are represented by rows. The purpose of orthogonal array is to reduce the number of experiments to get unbiased data. In this experiment, the Taguchi L16 (44) was used, as shown in

Table 1, to conduct the numerical experiment of the relationship fin parameter in heat sink of high speed connector. Without considering the interaction of the factors, the Taguchi orthogonal L16 (44) array is a very efficient four-level orthogonal array. The experiments were numbered 1~16, and thus there were sixteen experiments. The experiments were completed in the sequence of the orthogonal array.

ABCD in

Table 1, represents the control factors including Fin height, Fin thickness, Extended length of fin, and Substrate thickness. Each factor has four levels. Taguchi L16 orthogonal array with sixteen columns is mainly for the configuration of factors or interactions. The orthogonal array has four major factors as the principal effects. Although there are slightly interactions, the experiment considered the experimental scale and neglected the existence of the interaction of ABCD. Sixteen experiments were conducted; the orthogonal array was the saturated orthogonal array filled up with control factor.

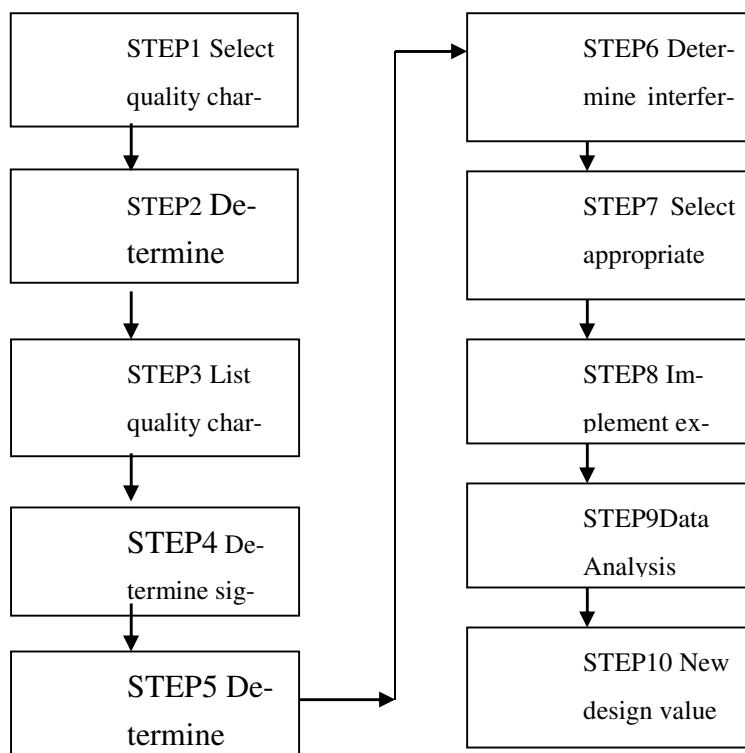


Figure 3, Taguchi method flow chart

#### 4. Experimental Results and Discussion

Table 1,  $L_{16}4^4$  orthogonal array for this experiment

Exp	A	B	C	D
1	1	1	1	1
2	1	2	2	2
3	1	3	3	3
4	1	4	4	4
5	2	1	2	3
6	2	2	1	4
7	2	3	4	1
8	2	4	3	2
9	3	1	3	4
10	3	2	4	3
11	3	3	1	2
12	3	4	2	1
13	4	1	4	2
14	4	2	3	1
15	4	3	2	4
16	4	4	1	3
Optimal	3	2	1	1

Table 2,  $L_{16}4^4$  orthogonal array for this experiment parameter and results

Exp	Experiment parameter				Experiment results (°C)					
	A	B	C	D	Y1	Y2	Y3	Y4	Y5	Y6
1	6.8 mm	1.35 mm	26.25 mm	2 mm	46.2	63.0	47.1	68.0	46.3	64.2
2	6.8 mm	1.45 mm	27.25 mm	2.1 mm	46.3	62.8	47.3	67.8	46.6	64.8
3	6.8 mm	1.55 mm	28.25 mm	2.2 mm	46.6	62.9	47.6	68.0	46.9	64.9
4	6.8 mm	1.65 mm	29.25 mm	2.3 mm	46.9	63.4	47.9	68.3	47.1	64.5
5	7.3 mm	1.35 mm	27.25 mm	2.2 mm	45.5	62.7	46.3	67.5	45.8	64.2
6	7.3 mm	1.45 mm	26.25 mm	2.3 mm	45.8	62.7	46.7	67.7	46.0	64.2
7	7.3mm	1.55 mm	29.25 mm	2 mm	45.8	63	46.7	67.9	46.0	63.9
8	7.3mm	1.65 mm	28.25 mm	2.1 mm	46.0	62.8	46.9	67.9	46.3	64.7
9	7.8mm	1.35 mm	28.25 mm	2.3 mm	44.7	62.2	45.6	67.0	45	64.3
10	7.8mm	1.45 mm	29.25 mm	2.2 mm	44.9	62.2	45.8	67.2	45.2	64
11	7.8mm	1.55 mm	26.25 mm	2.1 mm	44.8	62.2	45.7	67.0	45.0	63.6
12	7.8mm	1.65 mm	27.25 mm	2 mm	45	62.2	45.9	67.3	45.3	64.4
13	8.3mm	1.35 mm	29.25 mm	2.1 mm	45	62.5	45.8	67.3	45.2	63.8
14	8.3mm	1.45 mm	28.25 mm	2 mm	44.5	63.2	44.9	66.8	44.3	62.8
15	8.3mm	1.55 mm	27.25 mm	2.3 mm	44.9	63.4	45.5	67.5	44.8	63.4
16	8.3mm	1.65 mm	26.25 mm	2.2 mm	44.2	61.9	45.0	66.9	44.4	63.9
Optimal	7.8mm	1.45 mm	26.25 mm	2 mm	42.4	61.4	43.5	66.2	42.6	62.8

Table 3. S/N ratio list

D	Y1	Y2	Y3	Y4	Y5	Y6	S/N
1	46.2	63	47.1	68	46.3	64.2	- 34.56635027
2	46.3	62.8	47.3	67.8	46.6	64.8	- 34.59419548
3	46.6	62.9	47.6	68	46.9	64.9	- 34.63670715
4	46.9	63.4	47.9	68.3	47.1	64.5	- 34.67508445
3	45.5	62.7	46.3	67.5	45.8	64.2	- 34.47186826
4	45.8	62.7	46.7	67.7	46	64.2	- 34.51197247
1	45.8	63	46.7	67.9	46	63.9	- 34.51487159
2	46	62.8	46.9	67.9	46.3	64.7	- 34.55302058
4	44.7	62.2	45.6	67	45	64.3	- 34.36057911

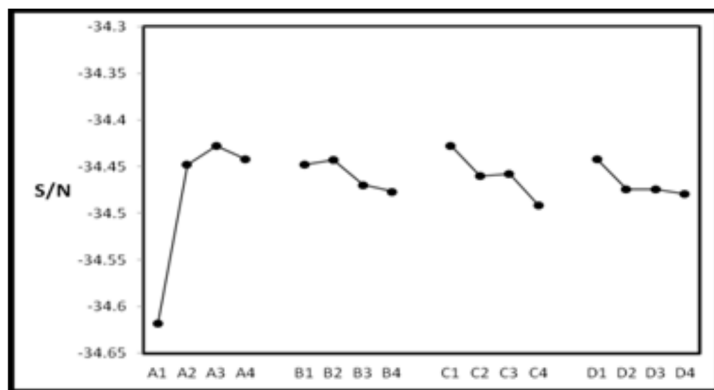


Figure 4. S/N ratio response diagram

Table 3. and Figure 4. S/N ratio response diagram show that the quality characteristic is the best when the

combination of control factors is A3B2C1D1, the order of influence is A2B2C2D1.

Table 4. Optimization result and original design S/N ratio

EXP.	A. Fin height	B. Fin thickness	C. Extended length of fin	D. Substrate thickness	Y1	Y2	Y3	Y4	Y5	Y6	S/N
Original	6.8mm	1.35 mm	26.25 mm	2 mm	46.2	63.0	47.1	68.0	46.3	64.2	-34.56
Worst	6.8mm	1.35 mm	29.25 mm	2.3 mm	46.9	63.4	47.9	68.3	47.1	64.5	-34.67
	7.8mm	1.35 mm	26.25 mm	2 mm			43.5	66.2			-34.50

The above result shows that the optimum design is better than the original design, and the result is reasonable. Finally, the optimum design experiment is compared with the original design result, so as to determine whether there is any improvement(as shown in

Table 4).

The original design combination is ( A. Fin height. = 6.8mm 、 B. Fin thickness = 1.35 mm 、 C. Extended length of fin = 26.25 mm 、 D. Substrate thickness = 2 mm )

The optimum design combination is ( A. Fin height. = 7.8mm 、 B. Fin thickness = 1.35 mm 、 C. Extended length of fin = 26.25 mm 、 D. Substrate thickness = 2 mm )

The original design combination is the experimental result in L16(4<sup>4</sup>) orthogonal table, as shown in

Table 4.

*Optimal Parameter Combination*

Based on the Taguchi method, regarding the 16 groups of the data of the orthogonal array as shown in Table 3, the shortest air flow outgoing time occurs in Optima and the value is r combination in L16orthogonal array. The group of parameters is ( A. Fin height. = 7.8mm 、 B. Fin thickness = 1.35 mm 、 C. Extended length of fin = 26.25 mm 、 D. Substrate thickness = 2 mm.

*Air Velocity*

Figure 6. shows the air velocity and

surface temperature results of electric connector.

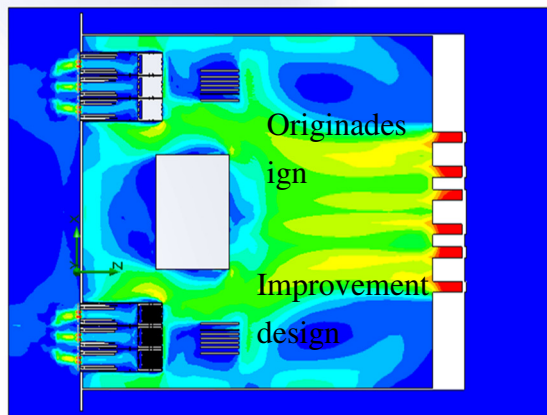


Figure 5. Air velocity of electric connector

The use of CFD software to simulate the air flow results is shown above. It is apparent that a significant improvement in the design of convection on the connector can be achieved, neither the traditional design. In such, the results can be accomplished by improving the design of effective tropical convection, to lead to the effect of the heat dissipation.

Table 4. illustrates the comparison of the surface temperatures of the traditional design with those of the improved design. The maximum temperature occurs in the middle lower port in 13.2 degree, while the minimum rests on the upper port is in 3.1. This result is able to demonstrate that the improved design is effective to improve the temperature of the lower port, while the temperature of the upper port can also be improved by the heat sink.

The comparison and analysis between

the actual measurement and simulation results (temperature) is depicted in Figure 6. The study results reported by the Figure 7.

indicate that in light of the results produced by the air velocity of the electric connector simulation can clearly show the effect of the significant improvement design of the connector.

However, the traditional original design had not led to the improvement of the design efficiently. Furthermore, by improving the cooling efficiency, the cooling effect can be achieved. Thus, the traditional design can therefore improve the surface temperature. The temperature comparison between the original version and the improvement design is displayed in Table 4. The maximum temperature difference among the cooling models designed by Taguchi was about 9°C. The maximum temperature occurs in the middle lower port in 13.2 degree, while the minimum

temperature difference occurs in the upper port is 3.1. The results can demonstrate that the improved design actually can result in the improvement of cooling efficiency, leading to the improvement of the temperature of the lower port. In addition,

the temperature of the upper port can also be improved by use of the heat sink. As a result, the temperature can be decreased by about 6 ~ 7°C, to result in the improvement of the cooling efficiency.

Table 5. Surface temperature of electric connector

	Original design			Improvement design			Delta temperature		
Temperature °C	58.1	64.5	61.3	53.2	58.4	58.2	4.9	6.1	3.1
	68.4	77	69.7	57.6	63.8	63.9	10.8	13.2	5.8

#### Analysis and Theory

- 1) Fin spacing: Fin spacing narrows - natural convection probability decreases, heat sinking efficiency is reduced. Fin spacing increases - the number of fins decreases, the surface area decreases.
- 2) Fin thickness: When the shape of fin is fixed, the balance between thickness and height is of great importance, especially the thin and high fins can make difficult heat transfer in the front end, so that the efficiency cannot be increased even if the volume of heat spreader is increased.

When the heat spreader is shortened, the heat sinking efficiency increases with the surface area, but the decrease in the volume of heat spreader causes defects (thermal capacity decreases). Therefore,

the fin length shall be kept to a certainty.

The fin thins - the ability of fin to transfer heat to the top is weakened, the fin thickens - the number of fins decreases (surface area decreases), the fin grows - the ability of fin to transfer heat to the top is weakened (volume efficiency is weakened). Fin shortens - surface area decreases

#### Conclusions

1. The optimum design parameters of heat spreader were determined using the Taguchi analysis to research optimality analysis. The quality characteristic is the best when the combination of control factors is A3B2C1D1, the order of influence is A2B2C2D1
2. By using the Analysis of Fin spacing

is confirmed. (1) Fin spacing narrows - natural convection probability decreases, heat sinking efficiency is reduced. (2) Fin spacing increases - the number of fins decreases, the surface area decreases. (3) Fin thickness: When the shape of fin is fixed, the balance between thickness and height is of great importance, especially the thin and high fins can make difficult heat transfer in the front end, so that the efficiency cannot be increased even if the volume of heat spreader is increased. When the heat

spreader is shortened, the heat sinking efficiency increases with the surface area, but the decrease in the volume of heat spreader causes defects (thermal capacity decreases). Therefore, the fin length shall be kept to a certainty. The fin thins - the ability of fin to transfer heat to the top is weakened, the fin thickens - the number of fins decreases (surface area decreases), the fin grows - the ability of fin to transfer heat to the top is weakened (volume efficiency is weakened). Fin shortens - surface area decreases

#### References

S. H. Hall, H. L. Heck, *Advanced Signal Integrity for High-Speed Digital Designs*, John Wiley & Sons, 2009, Chapter 13.

C.H. Hsieh, "The analysis and optimization of the compliant pin used in press-fit connectors", master's thesis, National Taiwan University of Science and Technology, 2009.

R. Goel, "Analysis of an Interference-Fit Pin Connection," *Components, Hybrids, and Manufacturing Technology*, IEEE Transactions on, vol. 1, pages 248-251, 1978.

S.Y. Chen, "ANSYS Finite Element Method Software - Practical Product Reliability Analysis", Chuan Hwa Books, 2004.

T. Ni, C. Tuan, C.C. Hsu, "General - Purpose Finite Element Analysis ANSYS 7.0 by Example", Publishing House of Electronics Industry, Beijing, 2003.

Material and Chemical Research Laboratories, Industrial Technology Research Institute.

