

Volume 6 • Issue 3 • September / October 2015

INTERNATIONAL JOURNAL OF  
BUSINESS RESEARCH AND MANAGEMENT (IJBRM)



ISSN : 2180-2165

Publication Frequency: 6 Issues / Year

CSC PUBLISHERS  
<http://www.cscjournals.org>

Copyrights © 2015. Computer Science Journals. All rights reserved.

# **INTERNATIONAL JOURNAL OF BUSINESS RESEARCH AND MANAGEMENT (IJBRM)**

**VOLUME 6, ISSUE 3, 2015**

**EDITED BY  
DR. NABEEL TAHIR**

ISSN (Online): 2180-2165

International Journal of Business Research and Management (IJBRM) is published both in traditional paper form and in Internet. This journal is published at the website <http://www.cscjournals.org>, maintained by Computer Science Journals (CSC Journals), Malaysia.

IJBRM Journal is a part of CSC Publishers

Computer Science Journals

<http://www.cscjournals.org>

# **INTERNATIONAL JOURNAL OF BUSINESS RESEARCH AND MANAGEMENT (IJBRM)**

Book: Volume 6, Issue 3, September / October 2015

Publishing Date: 31-10-2015

ISSN (Online): 2180-2165

This work is subjected to copyright. All rights are reserved whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, re-use of illustrations, recitation, broadcasting, reproduction on microfilms or in any other way, and storage in data banks. Duplication of this publication of parts thereof is permitted only under the provision of the copyright law 1965, in its current version, and permission of use must always be obtained from CSC Publishers.

IJBRM Journal is a part of CSC Publishers

<http://www.cscjournals.org>

© IJBRM Journal

Published in Malaysia

Typesetting: Camera-ready by author, data conversion by CSC Publishing Services – CSC Journals, Malaysia

**CSC Publishers, 2015**

## EDITORIAL PREFACE

This is *Third* Issue of Volume *Six* of the International Journal of Business Research and Management (IJBRM). The International Journal of Business Research and Management (IJBRM) invite papers with theoretical research/conceptual work or applied research/applications on topics related to research, practice, and teaching in all subject areas of Business, Management, Business research, Marketing, MIS-CIS, HRM, Business studies, Operations Management, Business Accounting, Economics, E-Business/E-Commerce, and related subjects. IJBRM is intended to be an outlet for theoretical and empirical research contributions for scholars and practitioners in the business field. Some important topics are business accounting, business model and strategy, e-commerce, collaborative commerce and net-enhancement, management systems and sustainable business and supply chain and demand chain management etc.

The initial efforts helped to shape the editorial policy and to sharpen the focus of the journal. Started with Volume 6, 2015 issues, IJBRM appears with more focused issues relevant to business research and management sciences subjects. Besides normal publications, IJBRM intend to organized special issues on more focused topics. Each special issue will have a designated editor (editors) – either member of the editorial board or another recognized specialist in the respective field.

IJBRM establishes an effective communication channel between decision- and policy-makers in business, government agencies, and academic and research institutions to recognize the implementation of important role effective systems in organizations. IJBRM aims to be an outlet for creative, innovative concepts, as well as effective research methodologies and emerging technologies for effective business management.

IJBRM editors understand that how much it is important for authors and researchers to have their work published with a minimum delay after submission of their papers. They also strongly believe that the direct communication between the editors and authors are important for the welfare, quality and wellbeing of the Journal and its readers. Therefore, all activities from paper submission to paper publication are controlled through electronic systems that include electronic submission, editorial panel and review system that ensures rapid decision with least delays in the publication processes.

To build its international reputation, we are disseminating the publication information through Google Books, Google Scholar, Directory of Open Access Journals (DOAJ), Open J Gate, ScientificCommons, Docstoc, Scribd, CiteSeerX and many more. Our International Editors are working on establishing ISI listing and a good impact factor for IJBRM. We would like to remind you that the success of our journal depends directly on the number of quality articles submitted for review. Accordingly, we would like to request your participation by submitting quality manuscripts for review and encouraging your colleagues to submit quality manuscripts for review. One of the great benefits we can provide to our prospective authors is the mentoring nature of our review process. IJBRM provides authors with high quality, helpful reviews that are shaped to assist authors in improving their manuscripts.

### **Editorial Board Members**

International Journal of Business Research and Management (IJBRM)

## EDITORIAL BOARD

### ASSOCIATE EDITORS (AEiCs)

---

**Assistant Professor. Jose Humberto Ablanedo-Rosas**  
University of Texas  
United States of America

**Professor Luis Antonio Fonseca Mendes**  
University of Beira Interior  
Portugal

### EDITORIAL BOARD MEMBERS (EBMs)

---

**Dr Hooi Hooi Lean**  
Universiti Sains Malaysia  
Malaysia

**Professor. Agostino Bruzzone**  
University of Genoa  
Italy

**Assistant Professor. Lorenzo Castelli**  
University of Trieste  
Italy

**Dr Francesco Longo**  
University of Calabria  
Italy

**Associate Professor. Lu Wei**  
University of China  
China

**Dr. Haitao Li**  
University of Missouri  
United States of America

**Dr Kaoru Kobayashi**  
Griffith University  
Australia

**Assistant Professor. Manuel Francisco Suárez Barraza**  
Tecnológico de Monterrey  
Mexico

**Assistant Professor. Haibo Wang**  
Texas A&M International University  
United States of America

**Professor. Ming DONG**

Shanghai Jiao Tong University  
China

**Dr Zhang Wen Yu**

Zhejiang University of Finance & Economics  
China

**Dr Jillian Cavanagh**

La Trobe University  
Australia

**Dr Dalbir Singh**

National University of Malaysia  
Malaysia

**Assistant Professor. Dr. Md. Mamun Habib**

American International University  
Bangladesh

**Assistant Professor. Srimantoorao. S. Appadoo**

University of Manitoba  
Canada

**Professor. Atul B Borade**

Jawaharlal Darda Institute of Engineering and Technology  
India

**Dr Vasa, Laszlo**

Szent Istvan University  
Hungary

**Assistant Professor. Birasnav Muthuraj**

New York Institute of Technology  
Bahrain

**Assistant Professor Susana Costa e Silva**

Universidade Católica Portuguesa  
Portugal

**Dr Sergio Picazo-Vela**

Universidad de las Américas Puebla  
Mexico

**Assistant Professor Arminda do Paço**

University of Beira Interior  
Portugal

**Professor Bobek Suklev**

Ss. Cyril and Methodius University in Skopje  
Macedonia

**Associate Professor Yan Lixia**

Zhongyuan University of Technology  
China

**Dr Sumali J. Conlon**  
University of Mississippi  
United States of America

**Dr Jun Yang**  
University of Houston Victoria  
United States of America

**Dr Krishn A. Goyal**  
M.L.S. University  
India

**Assistant Professor Paulo Duarte**  
University of Beira Interior  
Portugal

**Dr Prof. B. Koteswara Rao Naik**  
National Institute of Technology Trichy  
India

**Assistant Professor Shih Yung Chou**  
University of the Incarnate Word  
United States of America

**Associate Professor Sita Mishra**  
Institute of Management Technology  
India

**Assistant Professor Brikend Aziri**  
South East European University  
Macedonia

**Associate Professor Sangkyun Kim**  
Kangwon National University  
South Korea

**Dr. Fu Lee Wang**  
Caritas Institute of Higher Education  
Hong Kong

## TABLE OF CONTENTS

Volume 6, Issue 3, September / October 2015

### Pages

- 33 - 44 Employee Satisfaction and Service Quality: Is There Relations?  
*Dorothea Wahyu Ariani*
- 45 - 53 How does Optimism impact on Entrepreneurs' Overconfidence?  
*Sergio Margarita, Luisa Tibiletti, Mariacristina Uberti*
- 54 - 70 Dynamic Capabilities in SMEs: The Integration of External Competencies  
*Vlatka Skokic, Marko Coh, Marko Torkkeli*
- 71 - 85 Video Commercial Image Preference Study Through The Web Analytical Tool  
*Shih-Yen Huang*



## Employee Satisfaction and Service Quality: Is There Relations?

**Dorothea Wahyu Ariani**

*Dept. of Management, Economics Faculty  
Maranatha Christian University  
Jl. Prof. Drg. Suria Sumantri No. 65  
Bandung, Indonesia – 40164*

*ariani1338@gmail.com*

---

### Abstract

Studies on the relationship between employee job satisfaction and performance have controversy. The Hawthorne Studies conducted in 1930 was conducted to test the effect of job attitudes on performance. In the study it was found that a happy employee is a productive employee (Saari & Judge, 2004). Although many previous studies and support from the Social Exchange Theory states that employee job satisfaction affects the service quality, but the impact of employee job satisfaction on service quality can not be detected. This research was conducted in three private hospitals in Central Java with a self-assessment by 134 employees who assess employee job satisfaction and customer-assessment by 134 customers who assess the service quality it receives as a measure of the performance of a service company. The relationship between two variables is discussed.

**Keywords:** Employee Job Satisfaction, Service Quality, Private Hospital.

---

### 1. INTRODUCTION

A strong relationship between employee satisfaction and customer satisfaction with the service quality is considered very important for managerial strategy that focuses on a comprehensive approach to manage service quality. The literature on service quality suggests a link between employee satisfaction and customer satisfaction (Schneider & Bowen, 1993; Hartline, Maxham, & McKee, 2000; Loveman, 1998; Schlesinger & Zernitsky, 1991). The relationship between employee satisfaction and service quality will be stronger in business activities based on the activity of individual employees who serve customers directly. In other words, the relationship between employee satisfaction and service quality will be stronger in service firms than manufacturing firms.

In a service company, employee satisfaction, customer satisfaction and service quality are the three things that are very important (Lam, Zhang, & Baum, 2001). The previous researchers found a positive relationship between employee satisfaction and customer satisfaction (Koys, 2003; Wagenheim, Evanchitzky, & Wonderlich, 2007). One of the antecedents of customer satisfaction is employee satisfaction (Wagenheim, et al., 2007; Yee, Yeung, & Cheng, 2008). Implicit assumption underlying the relationship between customer satisfaction and employee satisfaction is an increase in employee satisfaction will lead to increased customer satisfaction due to better service quality. Most of the previous research supports a positive relationship between employee satisfaction and customer satisfaction (Schlesinger & Zernitsky, 1991; Schlesinger & Heskett, 1991; Schneider & Bowen, 1985; Yee et al., 2008). Therefore, positive changes in employee attitudes will drive positive change on customer satisfaction.

The relationship between employee satisfaction and work behavior are disclosed in Hawthorne Studies. Nevertheless, with the passage of time, the findings in the study are defined and difficult to be verified. Many studies conducted in the operational management found or examined the relationship between service quality, customer satisfaction, and business performance (Heim & Sinha, 2001; Balasubramanian, Konana, & Menon, 2003; Nagar & Rajan, 2005). However,

research on the impact of employee satisfaction on the operational performance is rarely done. Only a few studies examine the relationship between employee satisfaction and service quality of service (Hartline et al., 2000; Singh & Sirdeshmukh, 2000). Although Voss, Tsiriktsis, Funk, Yarrow, and Owen (2005) have developed an empirical model of the impact of employee satisfaction on service quality and customer satisfaction, but empirical research on it is still rarely done.

Studies conducted by Loveman (1998) on the banking sector do not provide empirical support for the positive impact of employee satisfaction on customer satisfaction. Homburg and Stock (2004) found that there are no studies that examine the factors that affect the strength of the relationship between employee satisfaction and customer satisfaction. Empirical evidence on the matter is also less consistent. Employee satisfaction can influence customer satisfaction directly or mediated by variables related to employee behavior (Homburg & Stock, 2004).

Previous researchers found an association between employee satisfaction and customer satisfaction. However, Schmit and Allscheid (1995) found that the relationship between employee satisfaction and customer satisfaction are still in need of conceptual and empirical evidence. A positive relationship between employee satisfaction and customer satisfaction has been widely demonstrated. However, studies that are based on theory and empirical analysis of the relationship are still rarely done (Homburg & Stock, 2004). Based on a variety of exposure in previous studies, this study will review the relevant literature and develop a conceptual model of the relationship between employee satisfaction and service quality, and to develop relevant hypotheses. Then, this study also describes the methodology followed by the findings from empirical studies are used to test the research hypothesis. In the end, this article will discuss the results of research both theoretically and empirically, the limitations of the study, and practical implications for researchers and managers.

## **2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

### **2.1. Employee Satisfaction**

Spector stated that employee satisfaction is employee satisfaction on the job or the extent to which state employees like his job (Sharma & Mani, 2013). Employee satisfaction indicates feelings of employees towards the work. Employee satisfaction is also defined as an overall evaluation of the work for the company. Employee satisfaction can be viewed as a machine that brings a change in the internal environment in the employee's performance and service quality required in the repair and improvement services to customers. Employee satisfaction is an important thing but never fulfilled at any time and is very difficult to calculate the employee satisfaction. Organizations prefer to measure something that is easily measured because it is quantitative, such as financial performance and productivity.

Employee satisfaction in service organizations achieved in the internal satisfaction. Bulgarella states that employees who are satisfied are employees who are motivated to convey his concern for others (Paul, 2013). Satisfied employees are employees who can be empowered. In other words, employees who are satisfied will have the resources and the responsibility to understand and meet the customer's demands and needs. Employees who are satisfied assessed as having emotional resources sufficient to show empathy, understanding, respect, and attention to the customer.

Employee job satisfaction is an important and an attractive factor in the research, particularly related to resource management human. Kisku (2003) stated that employee satisfaction is important to achieving quality and accountability of the organization. Employees will be more productive if they are satisfied with the work and the environment in which employees work and can improve the quality of the organization. Trivellas and Dargenidou's (2009) research results showed that employee job satisfaction caused by human relations and job enrichment, as well as the work environment that is positively related to the quality of administration. These employees

not only deliver and create services, but also become part of the service, so that employee satisfaction will improve the service quality.

## **2.2. Service Quality and Customer Satisfaction**

Services quality covers quality processes and quality output. Service quality is quality during the process that is acceptable to consumers. The output quality is the quality perceived by the customer after the service is received. If the customer service received is equal to the expected, the service quality is quite good. On the other hand, if the services received worse than expected, then the service quality is also considered bad. In other words, if the service quality can be met, the service is said to be satisfactory. Customers satisfied with the services received.

Customer satisfaction is a function of the service quality that is perceived and valued by customers. Customer satisfaction is the perception or judgment made by customers for services it receives. The customer satisfaction definition is various. There is a diverge definition between one customer and other customers. In other words, there is no one definition of the same regarding customer satisfaction. Definition of customer satisfaction is very complex, therefore, research on customer satisfaction should be continuously carried out. Definition of customer satisfaction is most often used by researchers is the success or failure of a business to meet customer expectations.

Service quality is a concept that drives interest and debate in the research literature because it is difficult in the definition and measurement with no consensus. There are a number of different definitions of service quality. First, the service quality is a service that can meet the needs or expectations of the customer (Dotchin & Oakland, 1994; Lewis & Mitchell, 1990). Secondly, the service quality can also be defined as the difference between customer expectations of the service and the service is perceived or received by the customer (Parasuraman, Zeithaml, & Berry, 1985).

Assessment of service quality performed during the service delivery process which usually requires the presence of a relationship between the customers and employees who provide services. Results of research conducted by Priyathanalai and Moenjohn (2012) showed a positive and significant relationship between employee satisfaction and service quality. Schlesinger and Zornitsky (1991) also examine job satisfaction and service quality and found that employee perceptions of job satisfaction and the ability to serve has a positive relationship with perceptions of the service quality. In his observations, Bitner (1990) found that low job satisfaction can reduce the performance of services. This suggests a significant correlation between job satisfaction and employee performance.

## **2.3. Relationship Quality of Service and Employee Satisfaction**

Quality Management mentioned in the literature that customer satisfaction is a key to employee satisfaction. Employees are said to be associated significantly satisfied with the service quality and customer satisfaction. Satisfied employees are more productive, innovative, and loyal, so the impact on customer satisfaction. Employees who are satisfied will be able to play the role of a strong core in achieving excellence and organizational effectiveness. Effect of employee satisfaction on service quality and customer satisfaction has also been widely discussed in the literature and marketing practice lately (Spiro & Weitz, 1990). Employees who are dissatisfied or unhappy would not be able to provide excellent service to the customer (Sclesinger & Zornitskly, 1991; Brief & Motowidlo, 1986; Brown & Lam, 2008). In the Operations Management literature, the significance of the attitude of the employees in the organization such as satisfaction, commitment, and loyalty, and how these attitudes affect the performance of the organization are rarely presented in depth (Boudreau, 2004; Boudreau, Hopp, McClain, & Thomas, 2003). How human resources can affect the operations of the organization is a study that is rarely done.

The influence of customer satisfaction on employee satisfaction is supported by Social Exchange Theory (Konovsky & Pugh, 1994) and the Psychological Contract Theory (Robinson & Morrison, 1995). The essence of both theories is the norm of reciprocity. Satisfied customers will feel

engage and cooperate with people who have satisfying or beneficial for him (Bateman & Organ, 1993). Beaty and Lee (1996) stated that customers who develop relations with employees will allow the employee to give attention to the customer. In other words, positive reinforcement of customers will increase customer satisfaction on the employees who have served.

The researchers argue that employee satisfaction will improve the services quality that are based on similarity or justice in the Social Exchange Theory. Although there are different views in the Social Exchange Theory, experts agree that social exchange involves a series of interactions that make up the responsibilities (Cropanzano & Mitchell, 2005). In Social Exchange Theory, if the employee offers a comfortable working conditions that can make employees feel satisfied, there will be a tendency to make the extra effort for the organization as a way to repay the kindness they have received (Wayne, Shore, & Linden, 1997; Flynn 2005). Therefore, the researchers suggested that employees who are satisfied will have a commitment to serve customers better (Loveman, 1998; Silvestro and Cross, 2000; Yoon & Suh, 2003).

A lot of research tried for finding the relationship between human resources and service quality. The research results of Malhotra and Mukherjee (2004) stated that, research on the relationship between human resources and service quality remains to be done. Xu and Goedegebuure (2011) suggested a positive relationship between employee satisfaction and customer satisfaction. The same thing has also been tested by Hartline and Ferrell (1996) and Schneider and Bowen (1985). Several studies have shown the character and strength of the relationship between employee satisfaction and customer satisfaction (Schlesinger & Zortisky, 1991; Schlesinger & Heskett, 1991). Heskett explained that the relationship between employee satisfaction and customer satisfaction is an analogous to a mirror satisfaction (Singh, 2000). Business success is the result of employee satisfaction that will be reflected or followed by customer satisfaction.

Besides positively related, employee satisfaction will lead to customer satisfaction. Employees who are satisfied will deliver a good service. Therefore, the employee would make satisfied customers also feel satisfied (Schlesinger & Zornitsky, 1991). Bolton and Drew (1991) stated that job satisfaction can directly affect customers' perception of service quality. In other words, job satisfaction has a positive impact on the quality of service which will affect customer satisfaction. Oh and Yoon (2011) also found that job satisfaction of employees in the service sector has a significant influence on the quality of service and concluded that job satisfaction also affects customer satisfaction.

Besides positively related, employee satisfaction will lead to customer satisfaction. Employees who are satisfied will deliver a good service. Therefore, the employee would make satisfied customers also feel satisfied (Schlesinger & Zornitsky, 1991). Bolton and Drew (1991) stated that job satisfaction can directly affect customers' perception of service quality. In other words, job satisfaction has a positive impact on the service quality which will affect customer satisfaction. Oh and Yoon (2011) also found that job satisfaction of employees in the service sector has a significant influence on the service quality and concluded that job satisfaction also affects customer satisfaction.

Meanwhile, Zeithaml and Bitner found the existence mutual influence (reciprocal effect) between employee satisfaction and customer satisfaction (Paul, 2013). Employees who are satisfied will try to satisfy the customer. Furthermore, customer satisfaction will strengthen employee satisfaction on the job. The relationship between employee satisfaction and customer satisfaction shows that employee satisfaction will increase when customers appreciate her efforts and employee's service. This suggests the need for feedback from customers for the services is received. The feedback can be either positive (appreciation) or negative (complaints) against the employee. In other words, the relationship between customer satisfaction and employee satisfaction are complex.

Customer management is a very important issue for the organization. This is due to the majority of companies trying to achieve market dominance to win the competition. In fact, many

companies strengthen their competitive ability with customer-oriented strategy and performance-based management. Efforts for improving customer satisfaction is important for organizations, especially service organizations. Much research has been done on the relationship between employee satisfaction and customer satisfaction. However, the researchers still feel a lack of conceptual and empirical support regarding their relationship. Several other researchers stated that employee job satisfaction is influenced by the work climate caused by the customer. In a meta-analysis, Mathieu and Zajac (1990) concluded that employee satisfaction has little direct impact on business performance. Many researchers have tested the correlation between employee satisfaction and work behavior of individuals such as labor turnover, absenteeism, delays, use of illegal drugs, and sabotage. However, the relationship between employee job satisfaction and operational performance such as service quality is less explicitly and accurately studied empirically. Based on a variety of such exposure, the hypothesis of this study is there is an absence of a significant direct relationship between employee satisfaction and service quality.

#### **2.4. Self-Assessment and Rating Customer**

This study has two objectives. First, this study replicates the results of research that has been done before. I would like to confirm the relationship between employee perceptions of job satisfaction and practice relating to customer perception of the service quality that is received. This study did not test hypotheses about the relationship between employee perceptions of the practices of human resource management and customer perception of service quality. The second purpose of the study was based on the belief that a positive work experience for employees will be reflected in a positive experience for the customer. Therefore, this study uses employee surveys and customer surveys. It is based on the consideration that the service organization, especially high contact service, employees are people who deal directly with customers. Employees are the people who need to know of how they respond to the wants, needs, and expectations, and they are very important people.

The use of two raters aims to overcome the bias problem that occurs when using only one source of assessment, the achievement of the perception of fairness, and acceptance of the results of the performance appraisal. According to Harris and Schaubroeck (1988), the advantages of multiple raters including increased ability to observe and measure a variety of jobs, improve reliability, fairness, and acceptance of the assessed, and improve defensibility of performance assessment. At first, the feedback system from a variety of sources is used for the purpose of development (London & Smither, 1995) and shifted for administrative purposes. The trend toward administrative based on the assumption that the system can provide a better quality of information and provide more complete information than that obtained by a single source (Greguras, Robie, Schleicher, & Goff III, 2003). Furthermore, there is a theory proposed by Taft on interpersonal judgment which states that the accuracy of the assessment by one person against another person determined by the assessor motivation to evaluate accurately, the existence of norms or standards to evaluate precisely, and the capability for evaluating an assessment (Decotiis & Petit, 1978).

According Schnake (1991), there are differences between the appraisal due to differences in the interaction of personal, organizational culture, level of task dependency, management style, job characteristics, and various other contextual factors. This study examined the relationship between attributes of employees that employee job satisfaction is assessed by the employees with self-assessment and the performance of the organization or company in the form of service quality that is assessed by the customer (customer-assessment).

### **3. RESEARCH METHODS**

#### **3.1. Samples and Procedures**

This study was done using a questionnaire distributed to collect individual data on respondents. The timing of the surveys carried out around about four months. The sample consisted of 134 customers (with a response rate of 67%) of 200 customers who are patients or families of patients and 134 employees (response rate 90%) of 150 employees working in a private hospital

in located in Central Java Province. The respondents received a survey using pen and paper. Respondents were assured anonymity of answers to the questionnaire that they have given and respondents completed the survey during working hours.

This study also uses a self-assessment and the assessment of others (others-assessment). Clear self-assessment is appropriate to employee job satisfaction variables. The patient or the patient's family assesses the service quality that is received. Employee indeed is a most appropriate respondent to self-report in job satisfaction (Conway & Lance, 2010). Method variance is usually assumed to increase the correlation, but the general situation of considerable research, the method will actually weaken the correlation variance compared to the situation without method variance.

### 3.2. Measurement

Instrument or measuring instrument is designed to study the individual level of analysis units. Each respondent in the study were asked to complete a questionnaire according to their shares. Patients completed questionnaires five types of service quality, which is an assessment of the physical hospital's facilities, service reliability, fast response in dealing with patients, service assurance, and hospital care for patients. Questionnaires five dimensions of service quality and employee job satisfaction questionnaire taken from Beamount (2012) were adapted to the needs of the hospital.

### 3.3. Descriptive Statistics, Validity, Reliability and Inter Scale Correlation

This study used a questionnaire developed by previous researcher translated from English, then translated back into the original language. It is intended for translation consistency. Corrected Item-Total Correlation was conducted to test the validity of the measuring instrument. Based on testing the validity of using the corrected item-total correlation, then there are 6 items of physical hospital's facilities, 5 items of service reliability, 3 items of fast response in providing the services, 6 items of assurance services, 4 items of attention on the patient, and 12 items of employee satisfaction are valid. To assess the reliability of items measuring all variables, internal consistency checks with Tho Cronbach Alpha is performed. The Cronbach Alpha of the test resulted in a record 0.8388 for the hospital physical evidence, 0.8262 for reliability services, 0.6717 for fast response in providing the service, 0.6350 for guarantee service, and 0.7814 for the attention of the patient, as well as 0.6743 for employee satisfaction far above the reliability limit as recommended by Hair, Black, Babin, Anderson, & Tatham (2006) of 0.6. Content validity of the instrument used to assess the measurements made at the stage of pre-tested by asking the expert opinions of two professors from college and has specialized in quantitative research in terms of methodology and discipline of organizational behavior. The scale is then performed Randaomized Pretest on all respondents as suggested by Sekaran and Bougie (2010).

Based on theoretical and empirical estimation, the bivariate correlation between two dimensions of service quality is positive, while the bivariate correlation between each dimension of service quality and employee satisfaction was not significant. In other words, there is no correlation between quality of service and employee satisfaction in cases in three hospitals in Central Java Province. Standard deviation calculation results, the reliability scale, and the correlation between among all variables presented in Table 1.

	Mean	SD	$\alpha$	1	2	3	4	5	6
Bukti Fisik	2,8271	0,4074	0,8388	1,000					
Kehandalan	2,8209	0,4128	0,8262	0,501**	1,000				
Cepat Tanggap	2,7687	0,4683	0,6717	0,284**	0,642**	1,000			
Jaminan	2,8035	0,3301	0,6350	0,573**	0,624**	0,514**	1,000		
Perhatian	2,7183	0,5161	0,7814	0,424**	0,651**	0,662**	0,796**	1,000	
Kepuasan	2,6119	0,3264	0,6743	0,093	-0,040	-0,107	0,063	-0,086	1,000

Notes: correlation is significant at the 0.01 level (2-tailed)

**TABLE 1:** Mean, Standard Deviation, and Correlation among Research Variables.

Based on Table 1, the correlation between employee satisfaction and each dimension of service quality is not significant. This means that employee satisfaction is not related to quality of service. It is also reinforced by the correlation between employee satisfaction and all of quality service dimensions are also not significant. ( $r = -0.030$ ).

#### **4. RESULTS AND DISCUSSION**

Many companies are enthusiastic in applying centered approach operations and perform a variety of effective ways to improve organizational efficiency. This has an impact on the management of human resources in the operating system. The importance of employee attitudes such as job satisfaction, employee loyalty, and organizational commitment, as well as its impact on operational performance is often ignored in the literature operational management (Boudreau, 2004). On the other hand, the issue of management of human resources in science is much discussed Organizational Behavior and Organizational Psychology for decades. In fact, the interest of researchers and practitioners of Organizational Behavior and Human Resources Management are rooted in the understanding or premise that the employee attributes are important for the effectiveness of the organization.

Operations Management and Human Resource Management seems to indicate the separation in terms of discussion of these issues in a long time, despite the fact that there is a correlation between the two (Boudreau et al., 2003). Study about the impact of employee attributes on the actual operational activities is important for service industries for personal service employees interact with customers. Since a long time, research on the attributes of the employee and the employee's performance has been the domain of Organizational Psychology, Operations Management instead. However, operational managers have greater involvement in the management of services. Therefore, the attributes of employees is an important factor for operational efficiency.

The results of this study differ from previous studies that examined the relationship between employee job satisfaction and service quality. Many previous studies have shown that the organization is not likely to improve service quality, organizational performance, and productivity before the achievement of internal customer satisfaction or which in this case is employee satisfaction. The researchers suggest that service quality is influenced by employee satisfaction (Hartline & Ferrell, 1996). This means the ability to manage the service quality should be done by giving attention to job satisfaction. In other words, service quality depends on employee job satisfaction. This study examined the relationship between service quality and employee satisfaction. Service quality of is evaluated by the customer, while employee satisfaction using employee's self-assessment.

Increasing importance of satisfaction has led researchers to study the phenomenon of satisfaction from two sides, i.e., employee satisfaction and customer satisfaction. This study has tried to examine the relationship between employee satisfaction and service quality in the health care sector in some private hospitals. This study focused on finding the relationship between employee job satisfaction and service quality using a data link between employee and customer feedback responses. Based on previous research, there is a positive relationship between the two variables (Homburg & Stock, 2004), a negative relationship between the two variables (Silvestro & Cross, 2000), and there was no significant relationship between the two variables (Brown & Mitchell, 1995). This research result was confirmed to Brown and Mitchell's (1995) study.

The influence of contextual and methodological may moderate the relationship between the two variables that cause the nature of the relationship is different. Understanding the strength and context dependency relationships can provide insight into the level of employee satisfaction that will affect customer ratings. How does the influence of the type and number of services will also be influential in context and design research. The results of analysis of previous researchers stated that the nature of the relationship between the customer and the employee are different

between one service industry and other service industries (e.g., personal and non-personal services, presence services face to face directly or indirectly, business to business activities or business to customer) (Brown & Lam, 2008). This will be an underlying condition in which the customer response will specifically sensitive to employee satisfaction.

According to Lovelock (1993), there are some classification services, namely, personal services (e.g., medical, fitness) or service encounter and property services (e.g., repair, garage) or business encounters which have many differences. Personal services require proximity between the service provider and the customer. There is an interpersonal relationship between service providers and customers through meetings and affective communication. In a personalized service, customers can closely observe the process and results of the services. In the manufacturing company, interaction occurs only in the front office or lobby. It is difficult to evaluate the results of the ownership of the service performed. In the best personal service, customer service performance may be perceived as technical competence and pleasant service. As a result, service providers have a greater opportunity to differentiate itself through the services quality in service industries. It can be said that the relationship of employee satisfaction and service quality will be stronger in service industries than in manufacturing industries. A number of services found that relationship between job satisfaction and performance in the service quality will be stronger at the organizational level rather than at the individual level (Ostroff & Harrison, 1992 ; Gully, Dennie, & Whitney, 1995; Judge, Thoresen, Bono, & Patton 2001).

## 5. CONCLUSIONS

The results of this study indicate that there is no relationship between employee job satisfaction and quality of service. This research supports previous research that suggests that the relationship between the two variables is not consistent. In various concepts stated that the two variables are related, but the effects are reciprocal. Defining the service quality is difficult and contributes to the lack of consistency in research on service quality. The same thing also happened on employee job satisfaction is multidimensional.

This study uses two assessors, the self-assessment is used by the employee in assessing satisfaction of work, while customer assessments used in assessing the service quality that is received. Research excellence that uses more than one assessor is eliminating the presence of common variance caused by an assessor who must assess more than one variable research (Conway & Lance, 2010).

Finally, this study also showed some weaknesses. This study was only conducted in three hospitals in Central Java Province. Therefore, there may be different results when the same research study carried out in different places. In addition, the sample size in this study is not too large, so that an increase in the number of samples may show different or her. This kind of service will also affect the research results. This research results can be generalized when executed on multiple types of service industries and in different cities or countries.

Future research should seek to examine the extent to which the present results reproduce more widely in different cities or countries and in different service industries, such as education or other public service industries. Future research can also adds other variables such as customer satisfaction as mediating variables.

## 6. REFERENCES

- [1] Balasubramanian, Sridhar; Konana, Prabhudev; and Menon, Nirum M. "Customer Satisfaction in Virtuel Environment: A Study of Online Investing", *Management Science*, Vol. 49 No. 7, pp. 871-889, 2003.
- [2] Bateman, Thomas S. and Organ, Dennis W. "Job Satisfaction and The Good Soldier: The Relationship between Affect and Employee Citizenship", *Academy of Management Journal*, Vol. 26 No. 4, pp. 710-725, 1983.



- [3] Baudreau, John W. "Organizational Behavior, Strategy, Performance, and Design", *Management Science*, Vol. 50 No. 11, pp. 1463-1476, 2004.
- [4] Beamont, Daniel Jake. *Service Quality in Higher Education: The Students' Viewpoint*. The University of Manchester for The Degree of Bachelor of Science in The Faculty of Humanities. Dissertation, unpublished, 2012.
- [5] Beaty, Sharon E. and Lee, Jungki. "Customer-Sales Associate Retail Relationships", *Journal of Retailing*, Vol. 72 No. 3, pp. 223-247, 1996.
- [6] Bitner, Mary Jo. "Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses", *Journal of Marketing*, Vol. 54 No. 1, pp. 69-82, 1990.
- [7] Bolton, Ruth H. and Drew, James H. "A Multistage Model of Customers' Assessments of Service Quality and Value", *Journal of Consumer Research*, Vol. 17, pp. 375-384, 1991.
- [8] Boudreau, John W. "Organizational Behavior, Strategy, Performance, and Design", *Management Science*, Vol. 50 No. 11, pp. 1463-1476, 2004.
- [9] Boudreau, John W.; Hopp, Wallace; McClain, John O. and Thomas, L. Joseph. "On The Interface between Operations and Human Resources Management", *Manufacturing and Service Operations Management*, Vol. 5 No. 3, pp. 179-202, 2003.
- [10] Brief, Arthur P. and Motowidlo, Stephen J. "Prosocial Organizational Behavior", *Academy of Management Review*, Vol. 11 No. 4, pp. 710-725, 1986.
- [11] Brown, Karen A. and Mitchell, Terence R. "Organizational Obstacles: Links with Financial Performance, Customer Satisfaction, and Job Satisfaction in a Service Environment", *Human Relations*, Vol. 46 No. 6, pp. 725-757, 1995.
- [12] Brown, Steven P. and Lam, Son K. A. "Meta-Analysis of Relationships Linking Employee Satisfaction to Customer Responses", *Journal of Retailing*, Vol. 84 No. 3, pp. 243-255, 2008.
- [13] Conway, James M. and Lance, Charles E. "What Reviewers Should Expect from Authors Regarding Common Method Bias in Organizational Research", *Journal Business Psychology*, Vol. 25, pp. 325-334, 2010.
- [14] Cropanzano, Russell and Mitchell, Marie S. "Social Exchange Theory: An Interdisciplinary Review", *Journal of Management*, Vol. 31 No. 6, pp. 874-900, 2005.
- [15] Decotiis, Thomas and Petit, Andre. "The Performance Appraisal Process: A Model and Some Testable Propositions", *Academy of Management Review*, Vol. 3 No. 3, pp. 635-646, 1978.
- [16] Dotchin, J.A. and Oakland, J.S. "Total Quality Management in Service Part 2: Service Quality", *International Journal of Quality & Reliability Management*, Vol. 11 No. 3, pp. 27-42, 1994.
- [17] Flynn, Francis J. "Identity Orietation and Forms of Social Exchange in Organizations", *Academy of Management Review*, Vol. 30 No. 4, pp. 737-750, 2005.
- [18] Greguras, Gary .J.; Robie, Chat; Schleicher, Deidra J.; and Goff III, Maynard. "A Field Study of The Effects of Rating Purpose on The Quality of The Multisource Ratings", *Personnel Psychology*, Vol. 56 No. 1, pp. 1-21, 2003.
- [19] Gully, Stanley M.; Dennie, J.D.; and Whitney, David J. "A Meta-Analysis of Cohesion and Performance: Effects of Level of Analysis and task Interdependence", *Small Group Research*, Vol. 26 No. 4, pp. 447-520, 1995.

- [20] Hair, Joseph E.; Black, William C. ; Babin, Barry J. ; Anderson, Rolph E. ; and Tatham, Ronald L. *Multivariate Data Analysis*, 6th edition, Prentice-Hall International Inc., New Jersey, 2006.
- [21] Harris, Michael M. and Schaubroeck, John. "A Meta-Analysis of Self-Supervisor, Self-Peer, and Peer-Supervisor ratings", *Personnel Psychology*, Vol. 41 No. 1, pp. 43-62, 1988.
- [22] Hartline, Michael D. and Ferrell, O.C. "The Management of Customer Contact Service Employees: An Empirical Investigation", *Journal of Marketing*, Vol. 60 No. 4, pp. 52-70, 1996.
- [23] Hartline, Michael D.; Macham III, James D.; and McKee, Daryl O. "Corridors of Influence in The Dissemination of Customer-Oriented Strategy to Customer Contact Sense Employee" *Journal of Marketing*, Vol. 64 No. 2, pp. 35-50, 2000.
- [24] Heim, Gregory R. and Sinha, Kingshuk K. "Operational Drivers of Customer Loyalty in Electronics Retailing: An Empirical Analysis of Electronic Food Retailers", *Manufacturing and Service Operations Management*, Vol. 3 No 3, pp. 294-271, 2001.
- [25] Homburg, Christian and Stock, Ruth M. "Exploring The Conditions Under Which Salesperson Work Satisfaction Can Lead Customer Satisfaction", *Psychology & Marketing*, Vol. 22 No. 5, pp. 393-420, 2005.
- [26] Homburg, Christian and Stock, Ruth M. "The Link between Salespeople's Job satisfaction and Customer Satisfaction in Business-to-Business Context: A Dyadic Analysis", *Journal of The Academy of Marketing Science*, Vol. 32 No. 2, pp. 144-158, 2004.
- [27] Jeon, Hoseong and Choi, Beom Joon. "The Relationship between Employee Satisfaction and Customer Satisfaction", *Journal of Service Marketing*, Vol. 26 No. 5, pp. 332-341, 2012.
- [28] Judge, Timothy A.; Thoresen, Carl J.; Bono, Joyce E.; and Patton, Gregory K. "The Satisfaction - Job Performance Relationship: A Qualitative and Quantitative Review", *Psychological Bulletin*, Vol. 127 No. 3, pp. 376-407, 2001.
- [29] Konovsky, Mary A. and Pugh, S. Douglas. "Citizenship Behavior and Social Exchange", *Academy of Management Journal*, Vol. 37 No. 3, pp. 656-669, 1994.
- [30] Koys, Daniel. "How The Achievement of Human-Resources Goals Drivers Restaurant Performance", *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 44 No. 1, pp. 17-24, 2003.
- [31] Kusku, F. "Employee Satisfaction in Higher Education: The Case of Academic and Administrative Staff in Turkey", *Career Development International*, Vol. 8 No. 7, pp. 347-356, 2003.
- [32] Lam, T.; Zhang, H.; and Baum, T. "An Investigation of Employee's Job Satisfaction: The Case of Hotels in Hong Kong", *Tourism Management*, Vol. 22, pp. 157-165, 2001.
- [33] Lewis, B.R. and Mitchell, V.W. "Defining and Measuring The Quality of Customer Service", *Marketing Intelligence Planning*, Vol. 8 No. 6, pp. 11-17, 1990.
- [34] London, Manuel and Smither, James W. "Can Multisource Feedback Change Self-Awareness and Behavior? Theoretical Applications and Directions for Research", *Personnel Psychology*, Vol. 48 No. 4, pp. 803-840, 1995.
- [35] Lovelock, Christopher H. "Classifying Services to Gain Strategic Marketing Insights", *Journal of Marketing*, Vol. 47 No. 3, pp. 9-20. (1983).

- [36] Loveman, G.W. "Employees Satisfaction, Customer Loyalty, and Financial Performance: An Empirical Examination of the Service Profit Chain in Retail Banking", *Journal of Service Research*, Vol. 1 No. 1, pp. 18-31, 1998.
- [37] Malhotra, Neeru and Mukherjee, Avinandan. "The Relative Influence of Organizational Commitment and Job Satisfaction on Service Quality of Customer – Contact Employees in Banking Call Centers", *The Journal of Service Marketing*, Vol. 10 No. 2/3, pp. 162-174, 2004.
- [38] Mathieu, John E. and Zajac, Dennis M. "A Review and Meta-Analysis of The Antecedents, Correlates, and Consequences of Organizational Commitment", *Psychological Bulletin*, Vol. 108 No. 2, pp. 171-194, 1990.
- [39] Nagar, Venky and Rajan, Madhav V. "Measuring Customer Relationships: The Case of The Retail Banking Industry", *Management Science*, Vol. 51 No. 6, pp. 904-920, 2005.
- [40] Oh, Jikyung and Yoon, Byung-Kuk. "A Study on The Nurses' Job Satisfaction and Its Effect on Their Service Quality, Patients' Satisfaction and Their Intention to Revisit", *Study of Tourism and Leisure*, Vol. 23 No. 3, pp. 147-161, 2011.
- [41] Ostroff, Cheri and Harrison, David, A. "The Relationship between Satisfaction, Attitudes, and Performance: An Organizational Level Analysis", *Journal of Applied Psychology*, Vol. 77 No. 6, pp. 963-974, 1992.
- [42] Parasuraman, A.; Zeithaml, Valarie A.; and Berry, Leonard L. "A Conceptual Model of Service Quality and Its Implications for Future Research", *Journal of Marketing*, Vol. 49 No. 3, pp. 41-50, 1985.
- [43] Paul, Mukucha. "The Mediation Effects of Perceived Service Quality in The Relationship between Employee Satisfaction and Customer Satisfaction", *Journal of Studies in Accounts and Economics*, Vol. 1 No. 3, pp. 9-16, 2013.
- [44] Priyathanalai, Wimonphan and Moenjoh, Nuttawuth. "Is There a Link? Employee Satisfaction and Service Quality", *World Journal of Management*, Vol. 4 No. 1, pp. 82-92, 2012.
- [45] Robinson, Sandra L. and Morrison, Elizabeth Wolfe. "Psychological Contract and OCB: The Effects of Unfilled Obligations on Civic Virtue Behavior", *Journal of Organizational Behavior*, Vol. 16 No. 3, pp. 289-298, 1995.
- [46] Saari, Lise M. and Judge, Timothy A. "Employee Attitude and Job Satisfaction", *Human Resource Management*, Vol. 43 No. 4, pp. 395-407, 2004.
- [47] Schlesinger, Leonard A. and Heskett, James L. "The Service-Driven Service Company", *Harvard Business Review*, Vol. 69, pp. 71-81, 1991.
- [48] Schlesinger, Leonard A. and Zornitsky, Jeffrey. "Job Satisfaction, Service Capability, and Customer Satisfaction: An Examination of Linkage and Management Implications", *Human Resource Planning*, Vol. 14 No. 2, pp. 141-149, 1991.
- [49] Schmit, Mark and Allscheid, Steven P. "Employee Attitudes and Customer Satisfaction: Making Theoretical and Empirical Connection", *Personnel Psychology*, Vol. 48 No. 3, pp. 521-536, 1995.
- [50] Schnake, Mel. "Organizational Citizenship: A Review, Proposal, Model, and Research Agenda", *Human Relations*, Vol. 44 No. 7, pp. 735-759, 1991.

- [51] Schneider, Benjamin and Bowen, David E. "Employee and Customer Perceptions of Service in Banks: Replication and Extension", *Journal of Applied Psychology*, Vol. 70 No. 3, pp. 423-433, 1985.
- [52] Sekaran, Uma and Bougie, Roger. *Research methods for Business: A Skill Building Approach*, 5th edition, A John Wiley & Sons, Ltd., Singapore, 2010.
- [53] Sharma, Eliza and Mani, Mukta. "A Comparative Analysis of Employee Satisfaction in Indian Commercial Banks" *The IUP Journal of Organizational Behavior*, Vol. XI No. 4, pp. 38-61, 2013.
- [54] Silvestro, Rhian and Cross, Stuart. "Applying The Service Profit Chain in a Retail Environment: Challenging The Satisfaction Mirror", *International Journal of Service Industry Management*, Vol. 11 No. 3, pp. 244-268, 2000.
- [55] Singh, Jagdip and Sirdeshmukh, D. "Agency and Trust Mechanism in Customer Satisfaction and Loyalty Judgements" *Journal of Academy Marketing Science*, Vol. 28 No. 1, pp. 150-167, 2000.
- [56] Spiro, Rosann L. and Weitz, Barton A. "Adaptive Selling: Conceptualization, Measurement, and Nomological Validity", *Journal of Marketing Research*, Vol. 27 No. 1, pp. 61-69, 1990.
- [57] Trivellas, Panagiotis and Dargenidou, Dimitra. "Organizational Culture, Job Satisfaction, and Higher Education Service Quality. The Case of Technological Education Institute of Larissa", *The TQM Journal*, Vol. 21 No. 4, pp. 382-399, 2009.
- [58] Voss, Chris; Tsiriktsis, Nikos; Funk, Benjamin; Yarrow, David; and Owen, Jane. "Managerial Choice and Performance in Service Management – A Comparison of Private Sector Organizations with Further Education Colleges", *Journal of Operations Management*, Vol. 23 No. 2, pp. 179-195, 2005.
- [59] Wagenheim, Florian W.; Evanschitzky, Heiner; and Wonderlich, Maren. "Does The Employee-Customer Satisfaction Link Hold for All Employee Groups?", *Journal of Business Research*, Vol. 60 No. 7, pp. 690-697, 2007.
- [60] Wayne, Sandy J.; Shore, Lynn M.; and Linden, Robert S. "Perceived Organizational Support and Leader Member Exchange. A Social Exchange Perspective", *Academy of Management Journal*, Vol. 40 No. 1, pp. 82-111, 1997.
- [61] Xu, Ningzi and Goedegebuure, Robert. "Employee Satisfaction and Customer Satisfaction: Testing The Service Profit Chain in a Chinese Services Firm", *Innovative Marketing*, Vol. 1 No. 2, pp. 49-59, 2005.
- [62] Yee, Rachel W.Y.; Yeung, Andy C.L. and Cheng, T.C. Edwin. "The Impact of Employee Satisfaction on Quality and Profitability in High Contact Service Industries", *Journal of Operations Management*, Vol. 26 No. 5, pp. 651-668, 2008.
- [63] Yoon, Mahn Hee and Suh, Jaebeom. "Organizational Citizenship Behaviors and Service Quality as External Effectiveness of Contact Employees", *Journal of Business Research*, Vol. 56 No. 8, pp. 597-611, 2003.

## How does Optimism impact on Entrepreneurs' Overconfidence?

**Sergio Margarita**

*Department of Management  
University of Torino  
Torino, 10134, Italy*

*sergio.margarita@unito.it*

**Luisa Tibiletti**

*Department of Management  
University of Torino  
Torino, 10134, Italy*

*luisa.tibiletti@unito.it*

**Mariacristina Uberti**

*Department of Management  
University of Torino  
Torino, 10134, Italy*

*mariacristina.uberti@unito.it*

---

### Abstract

Optimism and overconfidence are well documented cognitive biases in the entrepreneurship literature (see Shepherd et al., 2015). Although these sentiments are typically thought to be almost overlapped, empirical studies make evidence of their different construct (see Trevelyan, 2008, 2011). In the paper at hand we investigate the descriptive and normative motivations inducing misconfidence biases to arise. First, we introduce the definition of optimism as underestimation of the task difficulty to meet a strategic Key Performance Indicator (KPI). Second, we define overconfidence as the tendency to overestimate the probability to achieve an uncertain task. To calculate this probability we set up a prescriptive benchmarking-based model. Third, we spotlight situations in enterprise risk management (ERM) where misconfidence biases in judgment emerge. Complementing Bordley et al. (2015) and Tibiletti and Uberti (2015) results, we show that overconfidence arises in presence of two extreme circumstances: (1) underestimation of task difficulty coupled with extremely poor entrepreneurial projects, and (2) overestimation of task difficulty coupled with extremely good entrepreneurial projects. Our theoretical findings match with accounted biased behaviors recognized among entrepreneurs known as the escalation and de-escalation of commitment effect biases. The study is based on the normative foundation for overconfidence set up by Bordley et al. (2015) and casts light on which circumstances that occurs. Our results have also practical implications. In fact, it is important for entrepreneurs be aware of situations where self-confidence is normatively biased.

**Keywords:** Optimism and Overconfidence, Benchmarking Procedure, Escalation and De-escalation of Commitment, Regulatory Focus Theory, Strategic Key Performance Indicators.

---

### 1. INTRODUCTION<sup>1</sup>

Research in entrepreneurship recognizes that entrepreneurs are individuals generally prone to fail in optimism and overconfidence biases (see [1] for an ample review on entrepreneurial heuristics and biases, and specifically [2]; [3]; [4]; [5]). The optimism bias refers to entrepreneurs' tendency to underestimate the difficulty of the goal to meet; whereas overconfidence bias refers to the tendency to overestimate the probability of success of the entrepreneurial project at hand. These cognitive biases are typically thought to be positively interdependent and even overlapped. However supported by empirical studies based on online surveys [6] claims that optimism and

---

<sup>1</sup> A previous version of this paper titled "Optimism and Overconfidence Biases among Entrepreneurs: a benchmarking-model" has been presented at the 4th European Business Research Conference 9-10 April 2015, Imperial College, London, UK. The Authors are in debt with the participants for their valuable comments.

overconfidence are distinct constructs with no relevant positive association. Extending and complementing this line of inquiry, we delve deeper their differences and explore why entrepreneur rationally engage biased judgements.

First, we give a formal definition of optimism according to the perceived difficulty to achieve the goal. The more the goal is easy-perceived, the higher the agent optimism level; and vice versa for hard-perceived goals. Based on the results of [7] we illustrate the link between the easy/hard goal perception and the agent gain-seeking/loss-aversion attitude.

Second, we suggest a probabilistic definition of self-confidence miscalibration based on the gap in evaluation between the entrepreneur and a well-calibrate external expert. To calculate the subjective probability to achieve the goals we use a benchmarking model under risk (see [7]; [8]; [9]).

Third, we present the main contribution of the paper. We identify situations in enterprise risk management (ERM) where misconfidence biases in judgments emerge. In the stream of research held by [7] and [10], we prove that overconfidence arise in connection with: (1) easy task agent's perception coupled with expected extremely poor entrepreneurial performances, and (2) hard task agent's perception coupled with expected extremely good entrepreneurial performances.

In conclusion, we build a theoretical framework that: (1) sets a different definition for optimism and overconfidence biases; (2) provides foundation for overconfidence conform with the prescriptive Expected Utility theory (see [11] and the descriptive Prospect Theory (see [12]; (3) spotlights circumstances where self-confidence judgement is normatively biased. Our results have also practical implications. In fact, to make mindful evaluations entrepreneurs must be conscious when they are predisposed to fall in misconfidence traps.

The remainder of the paper is organized as follows. In Section 2, we introduce the definitions of optimism and overconfidence. In Section 3 we set up a target-based theoretical model to calculate the probability to achieve the goal. Sufficient conditions for misconfidence in judgement are set out in Section 4. Section 5 sets up future research and concludes the paper.

## **2. OPTIMISM AND OVERCONFIDENCE BIASES IN THE LANGUAGE OF PROBABILITY**

Shepherd et al. [1] provide an extensive review of the several heuristics and biases documented in the entrepreneurial decision-making process. Among others, overconfidence and optimism are recognized key drivers in contributing on either the firm development and success or the firm failure. Optimists are defined as people who tend "to hold positive expectancies for their future" (see [13]) and look at the goals through "rose-tinted glasses" (see the seminal studies of [14] and [15]). Vice versa, overconfident entrepreneurs are defined as individuals who overestimate the probability of successfully meeting their commitments (see [16]). Despite a common believe, [17] has made evidence that no association exists between optimism and overconfidence. To evaluate uncertain projects the entrepreneur has to fix a goal to achieve. However, in real world the commitments are often vague and uncertain. In other words, goals are random variables. It follows that the agent is asked to deliver her personal views in the language of probability.

To explain this point, let start with a couple of examples. A manager has to evaluate a project with an uncertain cash flow. The standard guide-lines in the corporate finance literature suggest to check the financial capital sustainability on the basis of strategic *Key Performance Indicators* (KPIs) (see [18]) as:

1. Return on Equity (*ROE*);
2. Return on Debt (*ROD*);
3. Return on Investment (*ROI*).

Under the assumption of perfect capital market, the *Modigliani-Miller formula* (see [19]) relates the profitability indicator *ROE* of a project with the financial leverage ratios as follows:

$$ROE = [ROI + SPREAD \cdot DER] \cdot (1 - tax)$$

Where

$$SPREAD = ROI - ROD,$$

$$DER = Debt \text{ Equity Ratio} = \frac{Debt}{Equity}$$

*tax* = average tax

Specifically, *Modigliani-Miller's formula* pinpoints the key role played by the quantity  $SPREAD = ROI - ROD$ . It does not only sign the profitability direction of *ROE*, but also emphasizes its value due to its multiplicative effect. A basic condition for financial sustainability of the project is given by:

$$ROI > ROD.$$

If the cash flows of the project are uncertain, *ROI* and *ROD* are uncertain as well. Therefore, above condition needs to be translated in the language of probability. So, instead to check whether above inequality holds, we are asked to calculate:

*the probability that the (uncertain) ROI of the project be higher than the (uncertain) ROD,*

and only if that value is sufficiently high the project will be taken under consideration. A further condition to keep under consideration before undertaking any entrepreneur project is that

$$ROE > OCM$$

where *OCM* is the opportunity cost of holding money, intended as the return of investing in a risk free security - like a treasury bill.

In Section 3 we show an operational way to make the probability calculation. Need to define optimism first.

### 2.1 Optimism: Look at Commitments Through “rose-tinted” Glasses

Intuitively speaking an agent is optimist whether she tends to have a “pinked view” on the commitments. The problem of how an agent calibrates the subjective perception of the task difficulty has been investigated in the last twenty years in the experimental psychology literature see [15], [20] among others. The subjective judgments depend on: (1) the individual cardinal utility capturing risk preferences and (2) the personal “reference point” (see [12]). Then two practical questions arise:

Q1.: *How to elicit the individual cardinal utility/value function?*

Q2.: *How to set the appropriate “reference point”?*

Let start to tackle *Q1*. Let *u* a bounded, increasing (but not constant) and continuous cardinal utility function. As seminally discussed by [21] in the context of ruin probabilities, without loss of generality, *u* can be normalized so that  $\inf u(x) = 0$  and  $\sup u(x) = 1$ . Then *u* satisfies all the properties characterizing a cumulative distribution function (c.d.f.). As [22, p. 825] states “there are advantages to having the utility function represented by a distribution”, because we can grasp intuitive interpretations. In fact, if *F* denote the c.d.f. of the uncertain target *T*, then

$$u(x) = P(X \geq T) = F(x) \tag{1}$$

See [22, p. 825]. Equation (1) states a fundamental equivalence: the c.d.f.  $F$  of the target  $T$  just coincides with the normalized utility function  $u$ . To put it differently, Equation (1) tells us that we can think of the agent cardinal utility  $u(x)$  as the probability that the uncertain target  $T$  is not greater than  $x$ . We conclude that all information about the agent optimism can be just extrapolated from the perceived shape of the c.d.f. of the target  $T$ .

We are now ready to face Q2. In the last twenty years, this question is became a central one in the experimental and theoretical economics, see [23].

We have to distinguish between the *objective* and *subjective* reference point:

- *The objective reference point: the median*

In experimental research the most common “reference point” is the *median* of the distribution of possible outcomes; see [24]. Let remind the definition. Given a random target  $T$ , the value  $m$  such that

$$P(X < m) < 0.5 \text{ and } P(X \geq m) \geq 0.5$$

is called a *median* of  $T$ . The median thus defined always exists, and is unique. Alternative definitions are possible, but they yield the same value when the distribution of  $T$  is continuous and unimodal. Hereafter we consider only targets with unimodal distributions.

- *The subjective reference point: the mode*

Let assume the target  $T$  a unimodal<sup>2</sup> random variable with mode  $M$ . As a consequence, the correspondent c.d.f.  $F(x)$  defined on the support  $(a,b)$ , turns out to be an S-shaped c.d.f., that is convex for  $x \in (a,M)$  and concave for  $x \in (M,b)$ . The concavity switching point is in correspondence of the mode  $M$ . To find out the agent perceived reference point we use formula (1). According to Prospect Theory (see [12]), the subjective reference point corresponds to the subjectively perceived “knock-out” value that divides the domain of the perceived losses from that of the perceived gains. By (1) the agent utility  $u$  coincides with the c.d.f.  $F$ , so  $u$  is S-shaped with the concavity switching point in correspondence of  $M$ , as well. In conclusion, the *agent reference point* is just *the mode M*.

As discussed in [7] the definition of hard-perceived and easy-perceived task is given on basis of the gap between the target most likely value delivered by the agent, i.e. the mode  $M$ ; and that delivered by an external expert, i.e. the median  $m$ .

Intuitively, if the value  $M$  expressed by the agent is lower than that  $m$ , then the agent feels the *target easier* than the external expert does; in such a case the agent is called an *optimistic* individual. Vice versa if  $M$  is higher than  $m$ , the agent is called a *pessimistic* individual. If  $M$  and  $m$  coincide then the agent is called a *well-balanced in judgement* individual (see Figure 1).



**FIGURE 1:** Hard-perceived target, symmetric-perceived target and easy-perceived target.

<sup>2</sup> If  $T$  is not strictly unimodal, let  $M$  be the midpoint of the modal set.



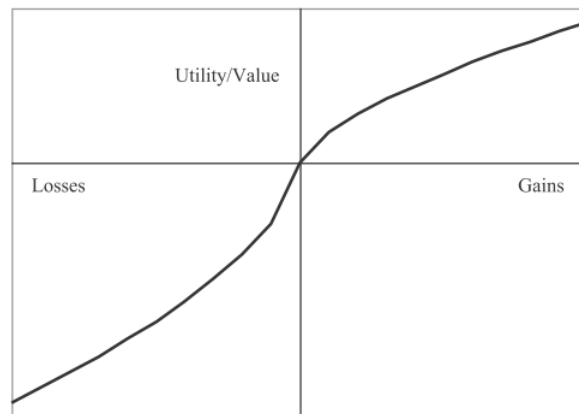
A simple condition for testing the presence of optimism or pessimism is offered by the so-called van Zwet mean-median-mode inequalities; see [25]. Let a unimodal continuous target  $T$  with mean  $\mu$ , median  $m$  and mode  $M$ . Then:

- a) if the agent is pessimist, then  $\mu \leq m \leq M$ ;
- b) if the agent is optimist, then  $M \leq m \leq \mu$ ;
- c) if the agent is well-balanced in judgement, then  $T$  is symmetric and  $\mu = m = M$ .

The alphabetical/counter-alphabetical order among mean, median and mode offers a user-friendly test for optimism/pessimism measuring<sup>3</sup> (see Figure 1).

The intuition behind follows. Optimistic agents perceive the goal as an easy task, and set the *subjective* reference point, i.e. the mode  $M$ , smaller than the *objective* one, i.e. the median  $m$ ; and vice versa pessimistic agents perceive the goal as a hard task and set the subjective reference point, i.e. the mode  $M$ , higher than the objective one, i.e. the median  $m$ . If the agents have symmetric-perceived opinions, the subjective and objective reference point coincides.

Due to the equivalence (1) between the target c.d.f. and the agent utility function, [7, Theorem 2.] state the equivalence between the easy/hard target perception and loss aversion/gain seeking attitude. On the loss domain the utility function is convex that shows the agent gain seeking attitude, whereas on the gain domain the utility function is concave that exhibits the agent risk aversion (see Figure 2).



**FIGURE 2:** A S-shaped utility/value function.

Above is also related with the regulatory focus theory (see [24] and [27]). If individuals have a *promotion focus*, they exhibit risk-seeking attitude and are endowed with a convex utility function. Alternatively, if they have a *prevention focus*, they display risk-aversion and are endowed with a concave utility function.

### **3. OVERCONFIDENCE: MISCALIBRATION OF THE SUCCESS PROBABILITY**

Since the seminal studies of [14] and [28, page 5] confidence miscalibration has been documented and studied in social sciences. [29] distinguish three different facets of confidence miscalibration: (a) the misconfidence, i.e. a fallacious confidence in own performance; (b) the overplacement or ‘better-than-average’ effect, i.e. the misconfidence in own performance relative to others; and (3) the overprecision, i.e. the tendency to have excessive trust in forecasting

<sup>3</sup> Note that van Zwet inequalities are only necessary conditions for optimism and pessimism, see [26] for counterexamples and [7] for technical details.

future uncertainty. In the following, we focus on (1) the self-misconfidence. We say that an agent gives a “misaligned judgement” when her personal evaluation of the probability of success is misaligned respect to that expressed by the external expert. A crucial point turns out:

*How to measure the probability of meeting the target?*

To achieve this objective, we draw upon the benchmarking procedure.

The benchmarking procedure originally proposed by [8] indicates an operational way to calculate the probability that an (uncertain) project  $X$  overcomes the (uncertain) target  $T$ . This prescriptive target-based model satisfies [11]’s and [30]’s axiomatization through a probabilistic and intuitive interpretation of the expected utility of a lottery  $X$ . [31] prove that the expected utility of a lottery  $X$  can be read as the probability that  $X$  outperforms a stochastically *independent* target  $T$  with c.d.f.  $u$ , i.e.

$$P(X \geq T) = Eu(X) \quad (2)$$

where  $E(.)$  is the expectation operator. This interpretation shows the key advantage in using the benchmark-procedure: the subjective beliefs about the probability of successfully meeting the target coincide with the expected utility of  $X$ . In conclusion all we need to calculate (2): (a) the perceived c.d.f. of the uncertain target index  $T$  (corresponding to  $ROD$  in the example in Sec. 2); and (b) the c.d.f. of the uncertain financial index  $X$  of the project (corresponding to  $ROI$  in the example in Sec. 2).

#### 4. WHEN DOES MISCONFIDENCE OCCUR?

Using [7, Theorem 3.] sufficient conditions for misconfidence biases can be stated. For explanatory purposes, we word them in the frame of the example described in Sec. 2.

Let  $ROD$  an uncertain target with median  $m$ . Suppose that an external expert declares equal to  $m$  the most likely value for  $ROD$ . Let  $ROI$  is the financial index chosen to measure the financial attractiveness of the uncertain project at hand. Let  $ROI$  is independent of  $ROD$ . Then if the agent perceives that:

- a) *the most likely value for  $ROD$  is smaller than  $m$  (i.e. she faces an easy-perceived target) and the support of  $ROI$  belongs to  $(-\infty, m]$ , i.e. the expectancies on the financial project outcomes are very bad, or*
- b) *the most likely value for  $ROD$  is greater than  $m$  (i.e. she faces a hard-perceived target) and the support of  $ROI$  belongs to  $[m, +\infty)$ , i.e. the expectancies on the financial project outcomes are very good,*

*then the agent exhibits **overconfidence** on the probability that  $ROI > ROD$ . And vice versa, if the agent perceives that:*

- c)  *$ROD$  is greater than  $m$  (i.e. she faces a hard-perceived target) and the support of  $ROI$  belongs to  $(-\infty, m]$ , i.e. the expectancies on the financial project outcomes are very bad, or*
- d)  *$ROD$  is smaller than  $m$  (i.e. she faces an easy-perceived target) and the support of  $ROI$  belongs to  $[m, +\infty)$ , i.e. the expectancies on the financial project outcomes are very good,*

*then the agent exhibits **underconfidence** on the probability that  $ROI > ROD$ .*

Clearly, above results on misconfidence in succeeding targets can be extended to other statements involving different strategic KPIs, as for example, that the probability that ROE be superior to the opportunity cost of holding money.

Immediate evidences turn out. The optimism attitude and the overconfidence bias are distinct constructs. That is consistent with [6] and [17] empirical studies, where the association sign between these two biases is not clear. The very gears in moving towards over/under confidence are: (1) the expected performances of the uncertain project measured by ROI as in the example in Sec. 2; (2) the attitude of believing in having to face an easy/hard task. In experimental psychology, conditions a) to d) are related to cognitive biases as follows:

a) Overconfidence in handling with very-poor projects is commonly associated with the “*escalation of commitment effect*” (see the seminal studies of [33]). That is also referred to the “*sunk cost fallacy*” that is the misleading behavior that guides managers to invest resources into failing businesses. This bias is also set in relation with the “*hot-hand fallacy*” (also known as the “*hot hand phenomenon*” or “*hot hand*”). That is the false belief that an entrepreneur who has once experienced success has a greater chance of further success in the future, although the project at hand displays realistic poor expectancies. These circumstances correspond to *case a*).

b) Dealing with hard-perceived tasks coupled with very good expectancies on the outcomes (see *case b*) may drive ambitious managers to be overconfident. That is commonly explained as an effect of the “*desirability bias*” that influences the evaluation of desired event occurrence (see e.g. [34]).

c) When pessimism in evaluating the target difficulty is associated to poor expectancies on the project outcomes, a loss adverse entrepreneur tends to be underconfident in successfully meeting the target (see *case c*). That tendency may be explained by the influence of “*pessimism bias*” that induces the “*status quo effect*”. That is related also with the loss and gain asymmetry in judgment according to the statement that “*losses loom much than gains*” see [12, page 279]. Another possible motivation can be blamed to the “*de-escalation effect*” that typically occurs when the task is perceived extremely difficult (see [34]).

d) Underconfidence detected in *case d*) can be explained by the “*de-escalation effect*”, as documented by [35]. An easy-perceived task may reduce the “goal attainment” and consequently cause disaffection in achieving the goal.

## 5. CONCLUSION AND FURTHER RESEARCH

This paper is a part of the growing literature on the impact of behavioral biases on entrepreneurial decision-making process (see [1]). Specifically, we focus on the optimism and overconfidence biases. We contribute to the literature in various ways.

First, we introduce a formal definition for optimism, as the tendency to underestimate the difficulty of the task to achieve, and then we define overconfidence, as the tendency to overestimate the probability of meeting the commitments. Second, we identify a practical method to calculate the subjective probability to achieve a given task. Third, we identify circumstances where inconsistencies in self-confidence arise.

Our results have also practical implications. In fact, being conscious of being normatively influenced by cognitive biases is essential to take mindful decisions. However, on the path of [17] further empirical studies direct to measure the matching between theoretical findings and real-life evidences are needed and are left to future agenda.

## 6. REFERENCES

- [1] D.A. Shepherd, T.A. Williams and H. Patzelt. “Thinking about entrepreneurial decision making: Review and Research agenda.” *Journal of Management*, Published online July 14, 2014, doi: 10.1177/0149206314541153.
- [2] C.R. Everett and R.J. Fairchild. “A Theory of Entrepreneurial Overconfidence, Effort, and Firm Outcomes.” *The Journal of Entrepreneurial Finance*, vol. 17, no. 1, pp. 1-26, 2015.

- [3] Engelen, C. Neumann and C. Schwens. ““Of Course I Can”: The Effect of CEO Overconfidence on Entrepreneurially Oriented Firms.” *Entrepreneurship Theory and Practice*. 2014. DOI: 10.1111/etap.12099.
- [4] Galasso and T. Simcoe. “CEO overconfidence and innovation.” *Management Science*, vol. 57, no. 8, pp. 1469-1484, 2011.
- [5] K.M. Hmieleski and R.A. Baron. “Entrepreneurs’ optimism and new venture performance: A social cognitive perspective.” *Academy of Management Journal*, Vol. 52, No. 3, pp. 473-488, 2009.
- [6] R. Trevelyan. “Optimism, overconfidence and entrepreneurial activity.” *Management Decision*, vol. 46, no. 7, pp. 986-1001, 2008.
- [7] R. Bordley, M. LiCalzi and L. Tibiletti. “A target-based foundation for the “hard-easy effect” bias.” 17th Eurasia Business and Economics Society (EBES) Conference, Venice, Italy, October 15-17, 2015. Available <http://virgo.unive.it/wpideas/storage/2014wp23.pdf>.
- [8] E. Castagnoli and M. LiCalzi. “Expected Utility without Utility.” *Theory and Decision*, vol. 41, no. 3, pp. 281-301, 1996.
- [9] F. Beccacece and A. Cillo. “Applying the Benchmarking Procedure: A Decision Criterion of Choice Under Risk?”, *Theory and Decision*, vol. 61, no. 1, pp. 75-91, 2006.
- [10] L. Tibiletti and M. Uberti. “Optimism and Overconfidence Biases among Entrepreneurs: a benchmarking-model.” *Proceedings of 4th European Business Research Conference 9-10 April 2015*, Imperial College, London, UK, 2015 ISBN: 978-1-922069-72-6.
- [11] J. von Neumann and O. Morgenstern. “*Theory of games and economic behavior*.” Princeton University Press, Princeton, Second Edition, 1947.
- [12] D. Kahneman and A. Tversky. “Prospect Theory: An Analysis of Decisions Under Risk.” *Econometrica*, vol. 47, no. 2, pp. 263-91, 1979.
- [13] M.F. Scheier, C.S. Carver and M.W. Bridges. “Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): a reevaluation of the life orientation test.” *Journal of Personality and Social Psychology*, Vol. 67 No. 6, p. 1063, 1994.
- [14] S. Lichtenstein and B. Fischhoff. “Do those who know more also know more about how much they know?.” *Organizational Behavior and Human Performance*, vol. 20, pp. 159-183, 1977.
- [15] S. Lichtenstein, B. Fischhoff and L.D. Phillips. “Calibration of subjective probabilities: The state of the art up to 1980.” In D. Kahneman, P. Slovic, and A. Tversky (Eds.), *Judgment under uncertainty: Heuristics and biases* (pp. 306-334). New York: Cambridge University Press, 1982.
- [16] T.E. Conine. “Estimating the Probability of Meeting Financial Commitments: A Behavioral Finance Perspective Based on Business Simulations.” *Global Business and Organizational Excellence*, Vol. 33, pp. 6-13, 2014.
- [17] R. Trevelyan. “Self-regulation and effort in entrepreneurial tasks.” *International Journal of Entrepreneurial Behaviour & Research*, Vol. 17, pp. 39-63, 2011. DOI <http://dx.doi.org/10.1108/13552551111107507>.

- [18] R.A. Brealy, S.C. Myers and F. Allen. "Principles of Corporate Finance." McGraw-Hill Irwin: New York, 2006. ISBN 0-07-295723-9.
- [19] F. Modigliani and M. Miller. "The Cost of Capital, Corporation Finance and the Theory of Investment." *American Economic Review*, Vol. 48, No. 3, pp. 261-297, 1958.
- [20] J.F. Yates. "Judgment and decision making." Englewood Cliffs, NJ, Prentice Hall, 1990.
- [21] K. Borch. "Decision rules depending on the probability of ruin." *Oxford Economic Papers*, 20, pp. 1-10, 1968.
- [22] M.H. Berhold. "The use of distribution functions to represent utility functions." *Management Science*, vol. 19, pp. 825-829, 1979.
- [23] A.O.I. Hoffmann, S.F. Henry and N. Kalogeras. "Aspirations as Reference Points: An Experimental Investigation of Risk Behavior over Time." *Theory and Decision*, vol. 75, 193-210, 2013.
- [24] C. Heath, R. Larrick and G. Wu. "Goals as Reference Points." *Cognitive Psychology*, 38, pp. 79-109, 1999.
- [25] W.R. Zwet. "Mean, median, mode II." *Statistica Neerlandica*, vol. 33, pp. 1-5, 1979.
- [26] K.M. Abadir. "The Mean-Median-Mode Inequality: Counterexamples." *Econometric Theory*, vol. 21, no. 2, pp. 477-482, 2005.
- [27] E.T. Higgins. "Promotion and prevention: regulatory focus as a motivational principle." in Zanna, M.P. (Ed.), *Advances in Experimental Social Psychology*, Vol.30, Academic Press, New York, NY, 1998, pp.1-46.
- [28] E.T. Higgins, R.S. Friedman, R.E. Harlow, L.C. Idson, O.N. Ayduk and A. Taylor. "Achievement orientations from subjective histories of success: Promotion pride versus prevention pride." *European Journal of Social Psychology*, vol. 31, pp. 3-23, 2001.
- [29] D.A. Moore and P.J. Healy. "The Trouble with Overconfidence." *Psychological Review*, vol. 115, No. 2, pp. 502-517, 2008.
- [30] D. Kahneman and A. Tversky. "Intuitive Prediction: Biases and Corrective Procedures." Technical rept. 1042-77-6, *Decisions And Designs Inc Mclean Va.*, 1977.
- [31] L.J. Savage. "The foundations of statistics." New York: Wiley, 1954.
- [32] R. Bordley and M. LiCalzi. "Decision analysis using targets instead of utility functions." *Decisions in Economics and Finance*, Springer-Verlag 23, pp. 53-74, 2000.
- [33] B.M. Staw. "Knee-deep in the Big Muddy: A Study of Escalating Commitment to a Chosen Course of Action." *Organizational Behavior and Human Performance* Vol. 16, No. 1, pp. 27-44, 1976.
- [34] F. Giardini, G. Coricelli, M. Joffily and A. Sirigu. "Overconfidence in Predictions as an Effect of Desirability Bias." In M. Abdellaoui and J.D. Hey (Eds.), *Advances in Decision Making Under Risk and Uncertainty*, Theory and Decision Library C., vol. 42, 2008, pp. 163-180. Berlin Heidelberg: Springer-Verlag.
- [35] J.S. Lee, M. Keil and K.F.E. Wong. "Effect of Goal Difficulty on Escalation of Commitment." *Journal of Behavioral Decision Making*, 2014 DOI: 10.1002/bdm.1835.

# Dynamic Capabilities in SMEs: The Integration of External Competencies

**Vlatka Skokic**

Faculty of Business, Economics and Law  
University of Surrey  
Guildford, GU2 7XH, UK

v.skokic@surrey.ac.uk

**Marko Coh**

Maxxim Consulting  
London, W1F 7JW, UK

marko.coh@maxximconsulting.com

**Marko Torkkeli**

School of Business and Management  
Lappeenranta University of Technology  
P.O.Box 20, FI-53851, Lappeenranta, Finland

marko.torkkeli@lut.fi

---

## Abstract

In spite of substantial body of theoretical and conceptual contributions, empirical evidence of nature of dynamic capabilities and their influence on firm performance is still relatively scarce. We present review of empirical studies of well-known processes that highlight constituting elements of dynamic capabilities, and conclude that relatively little research has been conducted to address managerial practices and processes employed to integrate external competencies. We propose concept of 'relationship capability', that denotes integrative dynamic capability constituted of managerial practices and processes that are employed in SMEs, first, to sense and interpret firm's environment, second, to reconfigure internal organizational processes to integrate external competencies in the firm and third, to develop specialized offerings based on platforms.

**Keywords:** Dynamic Capabilities, SMEs, Relationship Capability, External Competencies, External Environment.

---

## 1. INTRODUCTION

The field of strategic management is dedicated to the explanation of differences in firm performance. Strategists are particularly interested in conditions which lead to improvements in performance and sustainable competitive advantage. The level of analysis (of strategy formulation) has deepened from explanation of observed inter-firm profitability differences, through understanding of the intrinsic firm heterogeneity (and hence durable intra-industry profit differences), to examination of the dynamic routines that produce heterogeneous firms (Collis, 1994). Broadly speaking, three theoretical frameworks that address firm heterogeneity have emerged in the last twenty years: *resource-based view* of the firm (RBV), *(core) competence* approach and *dynamic capabilities* approach. In the following paragraphs, we briefly review these streams of research and then focus on the last one as the framework of reference for our study. After presenting review of empirical studies of dynamic capabilities, we propose a novel way to approach conceptualization of integration of competencies, external to focal firms. We outline framework for analysis of managerial practices and processes employed to integrate external competencies, embedded in platforms, in organizational processes of small and medium-sized enterprises (SMEs). In the final paragraphs, we discuss potential contribution of such framework to research on dynamic capabilities and to practice of management of SMEs.

## 2. LITERTURE REVIEW

Resource-based view of the firm (RBV) focuses on the internal organization of firms and factor market imperfections. It highlights the heterogeneity of firms, varying degrees of their specialization, and the limited transferability of corporate resources. The strategy process revolves around identification and exploitation of idiosyncratic resources and distinctive competencies (Clark, 2000). Probably the first self-conscious application of a resource perspective to the field of strategy was made by Rumelt (1984), who noted (p. 561) that the strategic firm “is characterized by a bundle of linked and idiosyncratic resources and resource conversion activities”. Also Wernerfelt (1984) was early to recognize the differences between the resource perspective and product market approach. Other notable early contributors include Barney (1986, 1991), Dierickx and Cool (1989), and Conner (1991). The resource-based logic has been taken further in the (core) competence approach to strategy formulation. This view, developed by Prahalad and Hamel (1990), argues that it is the core competencies of a firm, not discrete, individual assets, which are the source of sustainable competitive advantage. These core (organizational) competencies in turn lie behind firm’s ability to bundle together generic resources (skills and technologies) enabling it to provide unique value for the customers.

More recently, scholars have extended RBV to dynamic markets. The rationale is that RBV does not adequately explain how and why certain firms sustain their competitive advantage in changing business environments. Teece et al. (1997) expand on the resource-based view of the firm to explore the possibility of a theory of dynamic capabilities, which they define as “the firm’s ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments”. Zollo and Winter (1999, 2002), on the other hand, have suggested that dynamic capability should be defined more specifically in terms of the generation and modification of firm’s operational routines. There thus seems to be a lack of consensus on the nature and scope of dynamic capabilities. Nevertheless, the role of learning in building new competencies is central to different analyses. Moreover, while dynamic capabilities are idiosyncratic in their details and path dependent in their emergence (which complicates definitions), they still seem to have significant commonalities across firms. Extensive empirical research streams support the view that there are ‘best practices’ in specific strategic and organizational processes like product development, alliancing, and strategic decision making (Eisenhardt and Martin, 2000).

Teece et al. (1997) argue that dynamic capabilities are in fact organizational and strategic routines by which managers alter firm’s resource base and renew competencies in order to generate new sources of competitive advantage. In addition, these managerial and organizational processes are also shaped by the firm’s (specific) asset positions (such as the firm’s portfolio of difficult-to-trade knowledge assets and complementary assets), and the evolution path(s) it has adopted or inherited.

According to Teece et al. (1997), organizational processes have three roles: coordination/integration (a static concept), learning (a dynamic concept), and reconfiguration (a transformational concept). First, effective coordination and integration of activities is important both inside the firm and with external parties. Second, learning is conceived as an individual and organizational process by which repetition and experimentation enable tasks to be performed better and quicker and new production opportunities can be identified. In this way improvements in organizational processes also lead to the creation of new strategic capabilities (Argote, 1999). Third, the ability to sense the need to reconfigure firm’s asset structure is particularly valuable in rapidly changing environments. In order for an organization to exhibit dynamic capabilities, however, it must properly calibrate responsive actions and investments, and move to implement a new regime with skill and efficiency. During this process the organization receives and interprets messages about new markets, new technologies, and competitive threats (Teece, 1998).

### 2.1 Empirical Studies of Dynamic Capabilities

In spite of substantial body of theoretical and conceptual contributions, empirical evidence of nature of dynamic capabilities and their influence on firm performance is still relatively scarce. Scholars have suggested the following problems: lack of consensus on their definition

(Henderson and Cockburn, 1994), potential tautology (Priem and Butler, 2001), measurement difficulties (Wernerfelt, 1984) and operational limitations (Williamson, 1999). Eisenhardt and Martin (2000), on the other hand, state that dynamic capabilities consist of many well-known processes that create, integrate, reconfigure and release resources and competencies. In the following paragraphs we present brief review of empirical studies that addressed these aspects of dynamic capabilities.

Dynamic capabilities related to the creation of new resources include knowledge creation routines as well as alliance and acquisition routines that bring new resources into the firm from external sources (e.g., Powell et al., 1996). McGrath et al. (1996) developed a framework that explains creation and evolution of competences that are necessary antecedents for innovation. They point out that process counts, stressing that team processes of learning and of developing proficiency shape the economic outcomes of an innovation attempt. Pisano (1994) analyzed how organizations in chemical-based pharmaceuticals and biotechnology-based pharmaceuticals industries create, implement and replicate new routines. He observed significant differences in environments of firms in these two industries, concluding that different approaches to learning are required in different environments. In their study of entrepreneurial venturing in Siemens Switzerland, Katzy et al. (2001) identified creation of two dynamic capabilities, incubating and grafting, instituted to coordinate processes of creation of internal ventures and their integration in existing productive base of focal division.

Another type of dynamic capabilities is integrating dynamic capabilities such as product development routines and strategic decision making. Product development routines are considered dynamic capabilities as managers combine their varied skills and functional backgrounds to create new products and services (Helfat and Raubitschek, 2000). Brown and Eisenhardt (1997) examined continuous change in organizations in the context of multiple product innovation. They found that firms successful in multiple product innovation: first, blend limited structure around responsibilities and priorities with extensive communication and design freedom to create improvisation; second, rely on wide variety of low cost probes into the future; third, link the present and the future together through rhythmic, time paced transition processes. All these activities constitute dynamic capabilities associated with successful multiple product innovation. Strategic decision making is an integrating dynamic capability since it involves pooling of business, functional, and personal expertise (e.g. Eisenhardt 1989a). Studies by Brusoni et al. (2001) and Henderson and Cockburn (1994) suggest that integrative knowledge underlying dynamic capabilities can be a source of strategic advantage.

Resource allocation routines (Burgelman 1994) and transfer processes including routines for replication and brokering (Hansen 1999; Hargadon and Sutton 1997) are examples of dynamic capabilities that focus on reconfiguration. In multi-business firms, corporate divisions might be envisaged as combinations of capabilities and product-market areas of responsibility that may be recombined in various ways. Galunic and Eisenhardt (2001) suggest organizing recombinative processes in multi-business firms in dynamic communities, organizational forms consisting of diverse and quasi independent divisions, sharing identity and values and guided by social as well as economic rules. Finally, there are dynamic capabilities that release resources: giving up resource combinations that no longer provide competitive advantage is a crucial ability for a firm (Sull, 1999).

Recently, researchers have made efforts to tackle problem of measurement difficulties by constructing measures of dynamic capabilities. Zott (2003) explored how the dynamic capabilities of firms may be linked to the differential firm performance within an industry. Author proposes three performance-relevant attributes of dynamic capabilities (timing, cost and learning of resource deployment) and develops appropriate measures. Conclusion of the study, based on a computer simulation, is that effects of timing, cost and learning significantly contribute to intra-industry differences in performance. Macher and Mowery (2001) examined the role of the R&D organization and information technology practices for problem solving and learning-based improvement in innovation in semiconductor manufacturing. They derived models of the rate of



improvement in manufacturing yield and cycle time, as measures of the quality and the speed of production, respectively. Results obtained indicate that allocation of human resources to problem-solving activities and the use of information technology in the manufacturing facility determine semiconductor manufacturers' problem-solving abilities and subsequent manufacturing performance.

## **2.2 Integration of External Competencies – Dynamic Capabilities Approach**

Reflecting on definition of dynamic capabilities by Teece et al. (1997), we observed that empirical research has put most emphasis on firms' ability to integrate, build and reconfigure *internal* competencies. Literature has been rather silent on dynamic capabilities employed to integrate, build and reconfigure *external* competencies. It is generally observed in strategic management literature, that firms use alliances as a vehicle for acquisition of external competencies. However, so far little analysis of practices and processes firms employ to codify and disseminate knowledge of managing alliances has been conducted. One notable piece of research is contribution by Kale et al. (2002), who discussed concept of 'alliance capability' that would rest upon "how effectively the firm is able to capture, share and disseminate the alliance management know-how associated with prior experience" (Kale et al., 2002: 750). They reported that firms that create a dedicated alliance function that embodies practices constituting alliance capability realize greater success with alliances. Their research highlights two issues. First, it explicitly addresses managerial practices strategically employed to build capability of a firm to enter and manage alliances. Second, it suggests that deploying dynamic capabilities to manage strategic alliances is beneficial for firm performance.

Given our academic interest in management of entrepreneurial ventures, we set out to study acquisition and integration of external competencies in small and medium-sized enterprises (SMEs) that compete in international markets. We set out to explore whether SMEs can overcome their relatively limited competence base by entering alliances with partners that have already developed relevant competencies. Our starting point was consideration whether we might approach that problem by studying alliances SMEs enter. Review of literature on alliances and networks revealed that there is a large body of literature reporting failures of alliances (see e.g. Kogut, 1989) and a growing body of literature on networks that builds on the concept of social networks and considers embeddedness an important factor in defining opportunity set of alliances and other interfirm linkages a firm might enter (Gulati, 1998). Embeddedness view emphasizes, that "...actors do not respond solely to the individualistically determined interests...a structure of relations affects the actions taken by the individual actors composing it. It does so by constraining the set of actions available to the individual actors and by changing the dispositions of those actors toward the actions they may take" (Marsden, 1981: 1210). SMEs typically lack relevant embeddedness in international social networks of firms, and rely on social contacts of its key people, which may not be sufficient for establishment of linkages with other firms, that would exert major influence on SMEs performance. SMEs also lack status (Boeker, 1989) in the international arena, which is an important signaling element, especially in uncertain environments (Podolny, 1994). These factors may further affect scope of potential linkages with more established firms.

These findings led us to look for alternative ways for SMEs to get access to external competencies. One of potentially many of them is presented in recent work by Iansiti and Levien (2004a, 2004b). In their innovative treatment of business networks as ecosystems, they draw on analogies from biology and suggest that there are three types of firms in a business ecosystem: keystones, dominators and niche players. According to Iansiti and Levien (2004a, 2004b), bulk of an ecosystem is composed of niche players, and we believe this is an apt analogy for SMEs, focal firm population for our study. On the other hand, keystone is a metaphor for a firm that occupies the center of asset-sharing relationships and employs keystone strategy. By doing that keystone player improves performance of an ecosystem, which is assessed by measuring ecosystem's health on three dimensions: productivity, robustness and niche creation. Keystone strategy is aimed at enabling other firms in the ecosystem to create value, and at sharing that value with the ecosystem.

The most important contribution of a keystone firm is to provide stable and predictable set of common assets that other firms use to develop their own offerings. This set of common assets constitutes a *platform*, which embodies “set of solutions to common problems that is made available to the members of the ecosystem through a set of access points or interfaces” (Iansiti and Levien, 2004: 148). Examples of platforms are Wal-Mart's procurement system and Microsoft's operating system and tools. By integrating such set of solutions in their own organizational processes, SMEs can get access to external competencies that would otherwise be hard to attain. Leveraging of external competencies allows SMEs to focus their activities on development of special capabilities that allow them to differentiate themselves from other firms in business ecosystem.

In this paper we examine managerial practices and processes employed to integrate competencies external to the firm. Drawing on analogy with notion of alliance capability (Kale et al., 2002) and informed by the relational view (Dyer and Singh, 1998), which suggests that a firm's critical resources may be embedded in interfirm resources and routines, we propose concept of 'relationship capability'.

### 2.3 Relationship Capability

Figure 1 presents the concept of relationship capability. The figure consists of three parts: the firm (SME), its environment (consisting of keystone players and niche players) and its customers. The firm is presented as an integrator, performing three interrelated groups of processes: sensing and interpreting the environment, integration of external competencies and development of specialized offerings. Activities firm performs to improve these three groups of processes are denoted as competence building. Following studies of Helfat and Raubitschek (2000), Brown and Eisenhardt (1997) and Eisenhardt (1989a), we term the firm integrator since the activities mentioned above could be considered to constitute integrating dynamic capability. Since integrating knowledge underlying dynamic capabilities can be a source of competitive advantage (Henderson and Cockburn, 1994), we aim to examine what integrating practices focal firms perform and whether these practices might confer competitive advantage on these firms.

Processes employed to sense and interpret the environment are aimed at identification of keystone players and niche players in the firm's environment and identification of relevant strategic elements associated with these two groups of players. Such strategic elements include: types of products and services offered by keystone players and niche players, markets these types of players are in and will be in in the near future and characteristics of the strategic behavior of both type of players (e.g. technology leader/ technology follower, speed of reaction to changes in environment etc.). Integration of external competencies is a process aimed at enhancement of competence base of a firm without unnecessary duplication of efforts to develop competencies already accessible in the firm's environment. Integration capability is often critical in technology intensive industries, as keystone players' core competencies include setting standards of the industry. In that kind of situations, niche players need to develop capability to efficiently and timely integrate core competencies of keystone players, embedded in platforms or core products. Third group of processes that an integrator performs constitutes development of specialized offerings. Generally development of offerings follows integration of new generations of platforms or core products, as niche players build their offerings on top of keystone players' outputs. Typical example is Microsoft's .NET platform, which numerous niche players around the world use as a basis for their offerings. Another example is customer demand information Dell and Wal-Mart provide its supply chain partners. Such information is actually a platform, basic building block of business strategy of niche players that supply Dell and Wal-Mart. Niche players have to develop specialized offerings, as they lack economies of scale or scope that large players are able to generate. Consequently niche players can not compete on costs. Capability to develop distinctive offerings therefore has to be at the center of product/service development activities to enable niche players to stay in the market and generate positive business results.

Relationship with a keystone player can have varying impact on market position and business results of niche players. In Figure 1 we distinguish between niche players that are suppliers to a

keystone player (and potentially other customers) and niche players that sell their offerings only to customers other than keystone player. Based on this distinction, we distinguish between direct and indirect impact of keystone player on business results of niche players. Those niche players that supply a keystone player and other customers experience direct impact of keystone player, as they depend on both strategic and revenue side on the keystone player (the former due to the reliance on competencies of keystone player). Those niche players that supply only customers other than keystone player experience indirect impact, as their revenues are not generated from business with the keystone player, while competencies of the keystone player remain strategically important for such niche players.

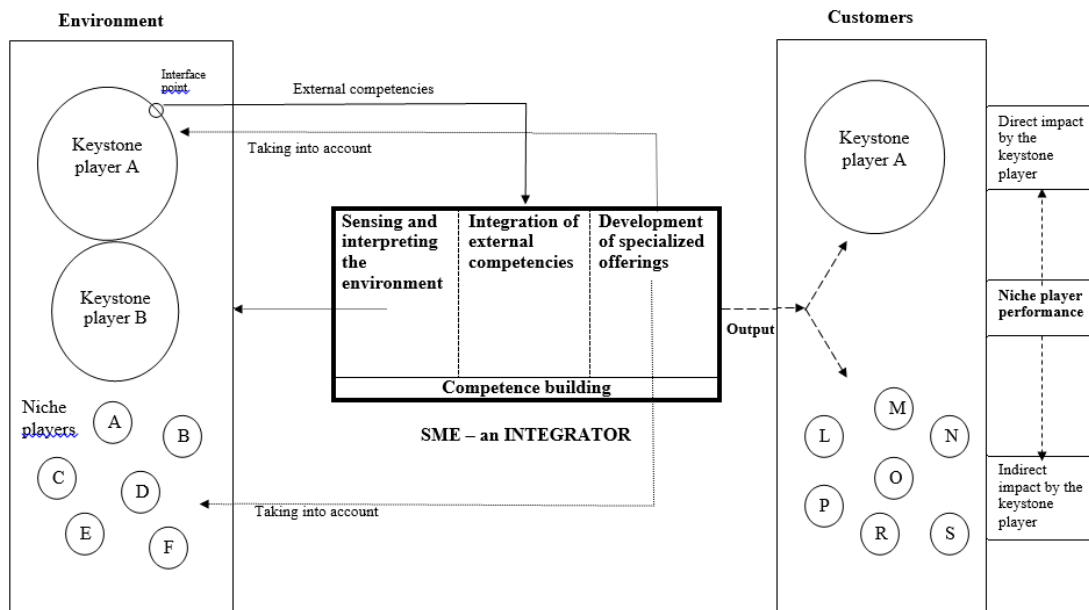


FIGURE 1: Relationship Capability.

### 3. RESEARCH QUESTIONS

Research questions arise directly from dimensions of relationship capability presented in Figure 1. Iansiti and Levien (2004a) state that niche players can benefit from relationships with keystone firms, and to do so, they need to develop ability to understand their environment in terms of presence of keystone firms and platforms. Our first research question is: Which managerial practices and processes SMEs employ to sense and interpret the firm's environment with respect to presence of keystone players and platforms?

Second research question concerns acquisition routines (Powell et al., 1996) firms employ to gain access to the platform. When relevant platforms in the firm's environment are identified, managers need to employ practices that enable firm to access interface points. Therefore, our second research question is: What managerial practices are employed to gain access to the relevant platforms?

Third research question concerns integrative process by which external competencies, embedded in platforms, are integrated in the firm's internal processes. Integration of platform solutions in internal organizational processes necessitates the reconfiguration of the latter, since the structure of the organizational competencies changes as a result of the integration. Our third research question is: How are internal organizational processes adjusted to integrate external competencies in the firm?

Fourth and final research question relates to the development of specialized offerings that differentiate particular niche player from the others in the business ecosystem (Iansiti, Levien, 2004a). The purpose of the integration of external competencies is two-fold: avoidance of efforts aimed at development of particular competencies, already readily available in the firm's environment, and acquisition of standardized, technologically sophisticated base upon which highly specialized, yet in essential features standardized, offerings can be developed. Our final research question is: How are specialized offerings, based on platform solutions, developed?

#### **4. METHODS**

Aim of our research is to further understanding of dynamic capabilities by developing theoretical framework of integration of external competencies in the context of SMEs. Literature suggests that when dealing with relatively under explored phenomena, inductive theory building research approach is appropriate. Glaser and Strauss (1967) suggested grounded theory building using comparative method. This method relies on continuous comparison of collected data and theory, and results in theoretical categories based solely on evidence. Eisenhardt (1989b) suggested more systematic approach and developed roadmap for building theories from case study research. We combined these two approaches in the course of our study.

Case study is a research strategy which focuses on understanding the dynamics present within single settings (Eisenhardt, 1989b). It is appropriate for our purposes since we are trying to understand dynamics of managerial practices in setting of particular type of organizations, SMEs operating in international markets. Case studies can involve either single or multiple cases, and several levels of analysis (Yin, 2003).

We used theoretical sampling (cases are chosen for theoretical, not statistical, reasons, Glaser and Strauss, 1967) as it allows choice of cases in which the processes of interest are observable. We studied seven small and medium-sized software services companies operating in Central and Eastern Europe. Unifying characteristics of these companies are that they are all partners of Microsoft, and that they focus on particular type of software services. Based on the latter fact and for the purpose of adherence to Iansiti and Levien's framework, we will from this point on refer to those companies as niche players. Choice to study Microsoft partner companies was based on presumption that phenomena of interest might be readily observable, as the business model of Microsoft is built on partnership with niche players that develop their offerings on the basis of Microsoft's platforms. In effect, in our view, Microsoft acts as a keystone player that explicitly enables niche players to leverage competencies embedded in its platforms.

In their study, Bourgeois and Eisenhardt (1988) identified potentially important constructs from literature on decision making, and then measured these constructs in the interviews and questionnaires. We followed their approach by a priori specifying construct of relationship capability and defining research questions to shape initial design of research and focus our study. We carried out field work in two iterative phases. In the first phase, we conducted in-depth interviews with twelve executive managers from seven niche players. In five companies, we conducted separate interviews with two individuals and in two companies we conducted interview with one person per company. Information we obtained from two managers from one company wasn't comparable to information we obtained with other respondents. Consequentially, we present findings for six niche players. In the second phase, we asked respondents to validate and complement summarized and interpreted findings based on the interviews. That kind of research approach ensured robustness of our findings, as well as enhanced practical implications that we elaborate on in the end of this paper. We gained additional feedback by organizing a joint meeting with the representatives of Microsoft in the region and interviewees.

For the analysis of the information obtained with interviews, we relied on approach suggested by Miles and Huberman (1994). We transcribed the interviews and coded them using list of codes that were based on the research questions. After coding the transcripts, we used software ATLAS/TI 5.0 to create matrices and that are presented in the findings part of this paper.

## 5. FINDINGS AND DISCUSSION

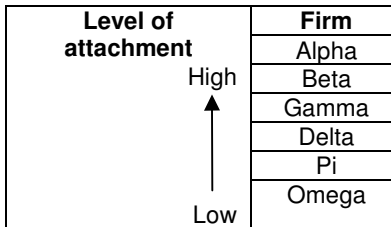
### 5.1 Sensing and Interpreting the Environment

Relationship capability is a three dimensional construct, constituted of managerial practices and processes that are employed in SMEs, first, to sense and interpret firm’s environment, second, to reconfigure internal organizational processes to integrate external competencies embodied in platforms in the firm and third, to develop specialized offerings based on platform solutions. We hypothesized that firms might differ in processes and practices they apply with respect to the nature of their relationships with the keystone players. We constructed concept of level of attachment to the keystone player, and observed whether we could identify any patterns in processes and practices in niche players relative to their different levels of attachment to Microsoft.

We assessed level of attachment for a particular niche player according to responses of interviewees to the following interview questions:

- Which platforms of which keystone players do you use as the basis of your offerings?
- Why did you decide to use particular platform? Why did you decide to cooperate with particular keystone player?
- What do you get out of the collaboration with particular keystone player and the use of its technologies?

Throughout the findings, niche players in our sample are ranked according to their level of attachment to Microsoft (see Figure 2). We reasoned that visualization will enable us to identify potential patterns in processes that may arise from different levels of attachment to a particular keystone player. Six niche players in the sample are labeled as Alpha, Beta, Gamma, Delta, Pi and Omega. We made an agreement with all interviewees that we will cover the identity of their firms in exchange for detailed information on processes and practices they employ.



**FIGURE 2:** Level of Attachment to Microsoft.

The managerial processes that niche players employ to sense and interpret their environment are presented in Table 1.

Element of sensing and interpreting the environment	Findings
Assessment of the quality and suitability of the platform	<ul style="list-style-type: none"> <li>• Companies that are more attached to Microsoft put less emphasis on employing processes for assessment</li> <li>• The largest companies in the sample employ systematic approach to assessment</li> </ul>
Foreseeing the development of the platform	<ul style="list-style-type: none"> <li>• Niche players predict development of platforms on the basis of keystone players' roadmaps</li> <li>• Niche players invest in platforms that have gained appropriate market acceptance</li> </ul>
Worries with respect to potential adverse effects of some keystones' actions	<ul style="list-style-type: none"> <li>• Niche players are worried that some actions of keystone players might adversely affect their market position</li> <li>• Such concern is overwhelming in the area of system integration services and less present in the area of solutions development</li> </ul>
Taking into account keystone players when developing offerings	<ul style="list-style-type: none"> <li>• Niche players take into account activities of keystone players</li> </ul>
Taking into account other niche players when developing offerings	<ul style="list-style-type: none"> <li>• Niche players take into account activities of other niche players</li> </ul>

**TABLE 1:** Practices and Processes Employed to Sense and Interpret the Environment.

On the first element, assessment of the quality and suitability of the platform, we can see that companies that are more attached to Microsoft put less emphasis on employing processes for assessment. Most apparent reason for that is their belief that Microsoft's platforms are very good and no other keystone player will endanger that situation in the near future. As we move down the level of attachment spectrum, we see that two companies that are least attached to Microsoft employ systematic approach to assessment. One company established formal body that assesses platforms up-front and by doing that reduces risk that some platform may prove inappropriate in the latter phases of projects. Another company goes one step further and in some cases develops platform-related knowledge that keystone players don't have yet. Potential explanation for such situation might lie in the fact that these two niche players are the largest companies in the sample, therefore in contrast with smaller counterparts have resources and capabilities for systematic approach.

Niche players predict development of platforms on the basis of keystone players' roadmaps. Access to roadmaps is conditional on partner status, and niche players see them as a tool in developing their own roadmaps. However, when deciding on investments in knowledge on new platforms, niche players tend to be conservative and invest in platforms that have gained appropriate market acceptance. Up-front investments are rather rare, and occur in niche players

that position themselves as companies who are on the cutting edge of technology (two niche players in the sample).

Generally, niche players are worried that some actions of the keystone players might adversely affect their market position and consequentially performance. There is an overwhelming concern for the area of system integration services, as this is an area traditionally left to partners on the side of Microsoft. There is less concern in the area of solutions development, as niche players see their advantage in ability to provide customized solutions. Niche players do not have explicit strategies to address this trend, apart from one niche player, who is trying to strengthen its position in the region by offering higher value for money by offering customized solutions and accompanying consulting services.

Understanding of actions of keystone players and other niche players and considering those actions when making decisions are important elements of environment-sensing and interpreting capability (Iansiti, Levien, 2004a). Niche players in our sample unequivocally take into the account activities of keystone players and niche players. This takes place, with respect to keystone players, in the form of mimicking development processes of keystone players, assessment of markets and technologies keystone players are in, as well as assessment of importance of particular features to keystone players and their potential inclusion in future versions of the platform. Other niche players are seen as both potential competitors and partners, and their activities and presence in certain markets is considered by respondents an important factor when deciding on whether to enter new markets.

## **5.2 Access to the Platforms and Competencies Obtained**

Second and third dimension of relationship capability are practices and processes that niche players employ to integrate platforms in their processes and to develop specialized offerings on the basis of these platforms. Precondition for integration and development processes is gaining access to the platform. Keystone players build their business model on relatively straight-forward, standardized access to the platform. However, niche players, who use platforms as basis of their offerings, do not by definition become de facto strategic partners of keystone players. Level of partnership is different, and since all companies in our sample have status of Microsoft Certified Partner, with majority being Microsoft Gold Certified partners, they can be considered Microsoft's strategic partners in the region. This means that their initial access to the platform also meant start of a strategic partnership. In two cases, Hewlett-Packard (HP) appears as the keystone player, along with Microsoft, and therefore information refers to HP and points to certain differences in interfaces and partner models of the two keystone players. Discussion of these differences would be beyond the scope of this paper, and information we collected indicates that there are differences among business models of keystone players with respect to access to platforms.

It is evident that the usual way to gain access to the platform was to exhibit ability to sell large number of licenses for Microsoft products. Most of niche players in the sample started collaborating with Microsoft in mid-90s, when selling of licenses was the most important activity for Microsoft. With its model, Microsoft enabled niche players to be commercially successful, which in turn enabled them to grow. In contrast with Microsoft's commercially oriented model, HP granted access to its platforms to companies that were able to participate in its development process. In terms of the accessibility of platforms, Microsoft's model was characterized by proactive commercial and technical support of partners, whereas HP was more reactive to initiatives by niche players.

Following from access to the platform is access to competencies embedded in platforms. Table 2 presents motivation to adopt platforms and competencies actually obtained. Number in parentheses indicates interview question the finding refers to.

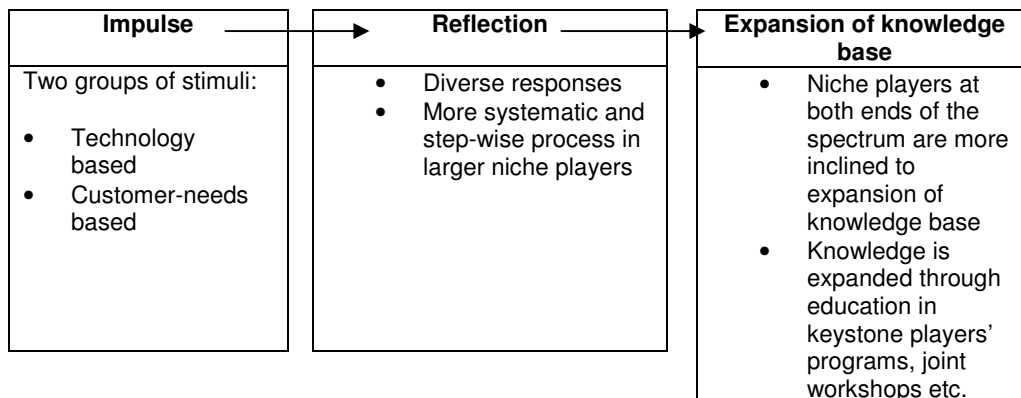
Motivation to adopt platform	Competencies obtained
<ul style="list-style-type: none"> <li>• Prevailing motivation was to obtain development tools at low-cost</li> </ul>	<ul style="list-style-type: none"> <li>• Marketing and technological competencies</li> </ul>

**TABLE 2:** Motivation to Adopt Platform and Competences Obtained.

Prevailing motivation to adopt Microsoft's platforms and become its partner was to obtain development tools at low-cost. This indicates that before joining the Microsoft's business ecosystem, niche players saw it as primarily technological company. However, competencies actually obtained have turned out to be marketing as well as technological. Market impact of Microsoft's brand lends credibility to partners, which in turn widens scope of their potential customers. This is especially important when niche players enter international markets (in some cases, international leads are supplied to partners by Microsoft, which is again consequence of its competence of market intelligence). By positioning themselves as Microsoft's partners, niche players effectively integrated end product of Microsoft's marketing competences, namely its recognition in the market. Microsoft's marketing activities (events, conferences etc.) also raise market awareness of niche players.

### 5.3 Integration of the Platforms

In previous paragraphs we discussed motivation of niche players to adopt platforms. We now turn to actual practices and processes that niche players employ to integrate those platforms in their processes. These processes result in integration of keystone players' competencies, embedded in the platforms. Figure 3 presents platform integration processes in niche players.



**FIGURE 3:** Platform Integration Processes.

We identified three phases in platform integration processes: impulse, reflection and expansion of knowledge base. Impulse phase includes stimuli that entice niche players to start deliberating on potential integration of new platforms in their processes. We observed two groups of stimuli: technology-based stimuli and customer needs-based stimuli. With technology-based stimuli we refer to new platforms or new version of the platforms developed by Microsoft, global trends in certain technological areas etc. With customer needs-based stimuli we refer to perceived or explicitly expressed customer needs, with potential or actual customer demand following. Niche players that have higher level of attachment to Microsoft are more inclined to react to technology-based stimuli, whereas with lowering level of attachment niche players tend to become relatively more responsive to customer needs-based stimuli.

In reflection phase, responses of niche players are rather diverse. We observe more systematic and step-wise process in two larger niche players, who also tend to be more receptive to the new platform integration than niche players in the middle of the level of attachment to Microsoft



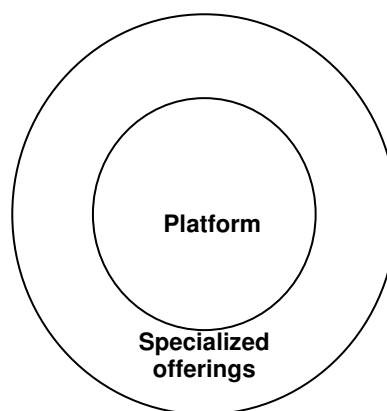
spectrum. Niche player at the top of this spectrum is again much inclined to unconditionally integrate new Microsoft's platforms. We might explain that kind of pattern with the fact, that the latter player is closely following Microsoft on its technological development activities, whereas the former two players are engaging in wider area of markets and technologies than companies in the middle of the spectrum, and take on relatively lower additional risks than those companies.

In the third phase of platform integration processes, niche players perform activities to expand their knowledge base. Precondition for those activities is that in previous phase they have assessed that potential benefits of new platform integration will exceed costs associated with it. Again, niche players at both ends of the spectrum are more inclined to come to such conclusion than niche players in the middle of the spectrum. Generally, knowledge base is expanded through education in keystone players' programs, joint workshops etc. The smallest niche players in the sample exhibit different pattern, namely self-directed education and internal training in one case and training through projects for customers in the other. Joint programs with keystone players are relatively more important in larger niche players at the lower end of the spectrum.

#### 5.4 Development of Offerings

By definition, niche players focus on single or at most couple of products or services that they offer to the market. Keystone players generate economies of scale and scope that arise from supplying platforms that embody solutions to problems common to the majority of firms in a particular industry or sector. Consequentially, niche players can achieve viability only if their offerings are clearly differentiated from offerings by keystone players.

One of potentially many ways of differentiation is through development of specialized offerings that are outside the domain of solutions platforms already embody (see Figure 4). Specialized offerings enable niche players to differentiate themselves relative to the keystone players. Differentiation relative to niche players that offer similarly specialized offerings is a harder task. In our study we observed that niche players have clear strategy of differentiation relative to the keystone players. Niche players' offerings are customized to such extent that functionalities of these offerings are outside the domain of generic functionalities of platforms. On the other hand, niche players stated very similar factors when asked about ways of differentiation relative to other niche players. Factors stated in all but two niche players out of six were list of reference projects, experience and speed of execution. We were unable to observe nature of linkage between factors of differentiation and development of offerings processes though.



**FIGURE 4:** Domain of Platforms and Specialized Offerings.

Table 3 presents patterns we observed in development of offerings processes

Development of offerings processes – findings	
•	Level of standardization and formalization of development of offerings processes increases with the size of the firm and level of responsiveness to technology based stimuli
•	Relative to platform integration processes, development of offerings processes tend to be more autonomous

TABLE 3: Development of Offerings Processes.

We observed pattern in correlation between development of offerings processes and size and responsiveness to technology-based stimuli. Level of standardization and formalization of development of offerings processes increases with the size of the firm and level of responsiveness to technology-based stimuli. The latter is according to our interviewees necessary due to the complexity of niche players' technological environment. Another pattern we observed was that relative to platform integration processes, development of offerings processes tend to be more autonomous, meaning that niche players tend to conduct development activities in relatively less collaborative manner than integration of platforms. We feel that such situation might result from niche player's belief that joint development with keystone players might result in knowledge and competencies transfer and consequentially in the erosion of the competitive advantage of niche players. We believe, on the other hand, that there is potential in joint development based on principles of open innovation model (Chesbrough, 2003).

Figure 5 presents findings in the context of relationship capability framework introduced in Figure 1. Note that all companies in the sample are selling their offerings to customers other than Microsoft therefore they experience indirect impact of collaboration.

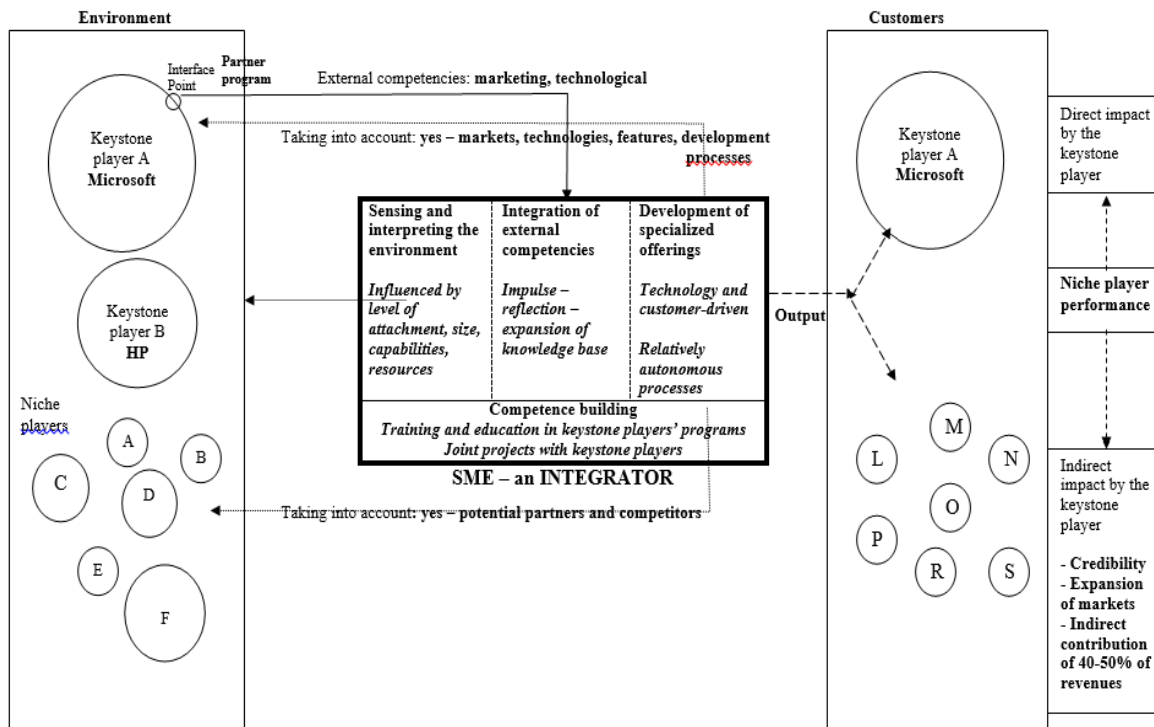


FIGURE 5: Relationship Capability- Case of Microsoft Partner Companies.

## 6. CONCLUSION

In our study of dynamic capabilities in niche players in the software services industry we observed processes constituting integrative dynamic capability, that we term relationship capability. We developed framework of three interconnected sets of processes constituting relationship capability: processes to sense and interpret the environment, processes to integrate platforms and processes to develop offerings. With respect to the first set of processes, we observed that the level of systematical approach to sensing and interpreting the environment varies with level of attachment to the keystone player. Further, we observed that integration processes consist of three phases: impulse phase, reflection phase and expansion of knowledge base phase. Niche players develop their offerings on the basis of the platforms and conduct those activities relatively autonomously, with relatively less input from keystone players or other niche players.

Given that the aim of our study was to create starting point for more in-depth research of the nature of dynamic capabilities in SMEs, our study suffers from several limitations and shortcomings. First one is that we gathered solely qualitative data and are therefore unable to present quantitative aspects of dynamic capabilities in SMEs. Furthermore, we would like to point out that our findings are context-specific and should be interpreted as such. Due to the small size of the sample scientific validity of our findings suffers to some extent. We tried to compensate for that shortcoming by presenting very detailed data that might be of interest for practicing managers. Lastly, since our study is in its initial phase, we are currently not yet able to present linkage between different levels of relationship capability and performance. We plan to address this last deficiency in the forthcoming study by developing measurable construct of relationship capability.

The concept of relationship capability contributes to several streams of research. It contributes to dynamic capabilities literature as it explicitly deals with ability to integrate external competencies. It furthers understanding of niche player strategies in business ecosystems literature. It also contributes to growing body of literature on strategic entrepreneurship, as it addresses development of capabilities in the setting of entrepreneurial ventures. Lastly, it contributes to organizational learning and managerial cognition literature, as we address the phenomena embedded in managerial processes in the firm.

Our research has implications for practicing managers as well. We tried to contribute to understanding of what may constitute successful practices in detecting keystone firms, and, perhaps even more importantly, what may constitute successful participation of SMEs in business ecosystems characterized by the presence of keystone players.

## 7. REFERENCES

- [1] Argote, L. (1999). *Organizational Learning: Creating, Retaining, and Transferring Knowledge*, Kluwer Academic, Boston, MA.
- [2] Barney, J.B. (1986). 'Strategic factor markets: Expectations, luck and business strategy', *Management Science*, 32(10), pp. 1231–1241.
- [3] Barney, J.B. (1991). 'Firm resources and sustained competitive advantage', *Journal of Management*, 17(1), pp. 99–120.
- [4] Boeker, W. (1989). 'Strategic change: The effects of founding and history', *Academy of Management Journal*, 32(3), pp. 489-515.
- [5] Bourgeois, L. and K. Eisenhardt (1988). 'Strategic decision processes in high velocity environments: Four cases in the microcomputer industry', *Management Science*, 34(7), pp. 816-835.

- [6] Brown, S. and K. Eisenhardt (1997). 'The art of continuous change: linking complexity theory and time-paced evolution in relentlessly shifting organizations', *Administrative Science Quarterly*, 42(1), pp. 1-34.
- [7] Brusoni, S., A. Prencipe, K. Pavitt (2001). 'Knowledge specialization, organizational coupling and the boundaries of the firm: why do firms know more than they make?', *Administrative Science Quarterly*, 46(4), pp. 597-621.
- [8] Burgelman, R.A. (1994). 'Fading memories: a process theory of strategic business exit in dynamic environments', *Administrative Science Quarterly*, 39(1), pp. 24–56.
- [9] Chesbrough, H.W. (2003). *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Harvard Business School Press, Boston, MA.
- [10] Clark, D.N. (2000). 'Implementation issues in core competence strategy making', *Strategic Change*, 9(2), pp. 115-127.
- [11] Collis, D.J. (1994). 'Research note: How valuable are organizational capabilities?', *Strategic Management Journal*, 15(Special Issue), pp. 143–152.
- [12] Conner, K.R. (1991). 'A historical comparison of resource-based theory and five schools of thought within industrial organization economics: Do we have a new theory of the firm?', *Journal of Management*, 17(1), pp. 121-154.
- [13] Dierickx I. and K. Cool (1989). 'Asset stock accumulation and sustainability of competitive advantage', *Management Science*, 35(12), pp. 1504–1511.
- [14] Dyer, J., and H. Singh (1998). 'The relational view: cooperative strategy and sources of interorganizational competitive advantage', *Academy of Management Review*, 23(4), pp. 660-679.
- [15] Eisenhardt, K.M. (1989a), 'Making fast strategic decisions in high-velocity environments', *Academy of Management Journal*, 32(3), pp. 543–576.
- [16] Eisenhardt, K.M. (1989b), 'Building theories from case study research', *Academy of Management Review*, 14(4), pp. 543–576.
- [17] Eisenhardt, K.M. and J. Martin (2000). 'Dynamic capabilities: What are they?', *Strategic Management Journal*, 21(10/11), pp. 1105-1121.
- [18] Galunic, C., and K.M. Eisenhardt (2001), 'Architectural innovation and modular corporate forms', *Academy of Management Journal*, 44(6), pp. 1229-1249.
- [19] Glaser, B., and A. Strauss (1967), *The discovery of grounded theory: Strategies of qualitative research*. Wiedenfeld and Nicholson, London.
- [20] Gulati, R. (1998). 'Alliances and networks', *Strategic Management Journal*, 19(4), pp. 293-317.
- [21] Hansen, M.T. (1999). 'The search-transfer problem: the role of weak ties in sharing knowledge across organization subunits', *Administrative Science Quarterly*, 44(1), pp. 82–111.
- [22] Hargadon, A. and R.I. Sutton (1997). 'Technology brokering and innovation in a product development firm', *Administrative Science Quarterly*, 42(4), pp. 716–749.
- [23] Helfat, C.E. and R.S. Raubitschek (2000), 'Product sequencing: co-evolution of knowledge, capabilities and products', *Strategic Management Journal*, 21(10–11), pp. 961–979.

- [24] Henderson, R., and I. Cockburn (1994). 'Measuring competence? Exploring firm effects in pharmaceutical research', *Strategic Management Journal*, 15, Winter special issue, pp. 63-84.
- [25] Iansiti, M. and R. Levien (2004a). 'Strategy as Ecology', *Harvard Business Review*, 82(3), pp. 68
- [26] Iansiti, M. and R. Levien (2004b). *The Keystone Advantage: What the new dynamics of business ecosystems mean for strategy, innovation and sustainability*. Harvard Business School Press, Boston, MA.
- [27] Kale, P., J.H. Dyer and H. Singh (2002). 'Alliance capability, stock market response, and long-term alliance success: The role of alliance function', *Strategic Management Journal*, 23(8), pp. 747-767.
- [28] Katzy, B., M. Dissel and F. Blindow (2001). 'Dynamic capabilities for entrepreneurial venturing: the Siemens ICE case', IAMOT 2001 Conference, Lausanne, Switzerland.
- [29] Kogut, B. (1989). 'The stability of joint ventures: Reciprocity and competitive rivalry', *Journal of Industrial Economics*, 38(2), pp. 183-198.
- [30] Macher, J. and D. Mowery (2001). 'Measuring dynamic capabilities: practices and performance in semiconductor manufacturing', Georgetown University working paper.
- [31] Marsden, P.V. (1981). 'Introducing influence processes into a system of collective decisions', *American Journal of Sociology*, 86, pp. 1203-1235.
- [32] McGrath, R., T. Ming-Hone, S. Venkataraman, I. MacMillan (1996). 'Innovation, competitive advantage and rent: a model and test', *Management Science*, 42(3), pp. 389-403.
- [33] Miles, M.B., M. Huberman (1994). *Qualitative Data Analysis: An Expanded Sourcebook*, Sage Publications, Thousand Oaks, CA.
- [34] Pisano, G. (1994). 'Knowledge, integration, and the locus of learning: an empirical analysis of process development', *Strategic Management Journal*, 15(Winter special issue), pp. 85-100.
- [35] Podolny, J.M. (1994). 'Market uncertainty and the social character of economic exchange', *Administrative Science Quarterly*, 39(3), pp. 458-483.
- [36] Powell, W.W., K.W. Koput and L. Smith-Doerr (1996). 'Interorganizational collaboration and the locus of innovation: networks of learning in biotechnology', *Administrative Science Quarterly*, 41(1), pp. 116-135.
- [37] Prahalad, C.K. and G. Hamel (1990). 'The core competence of the corporation', *Harvard Business Review*, 68(3), May-June, pp. 79-91.
- [38] Priem, R.L. and J.E. Butler (2001). 'Is the resource-based 'view' a useful perspective for strategic management research?', *Academy of Management Review*, 26(1), pp. 22-40.
- [39] Rumelt, R.P. (1984). 'Towards a strategic theory of the firm', in *Competitive Strategic Management*, ed. R.B. Lamb, Prentice-Hall, Englewood Cliffs, NJ, pp. 556-570.
- [40] Sull, N. (1999). 'Why good companies go bad', *Harvard Business Review*, 77(4), pp. 42-52.
- [41] Teece, D., G. Pisano and A. Shuen (1997). 'Dynamic capabilities and strategic management', *Strategic Management Journal*, 18(7), 509-533.

- [42] Teece, D.J. (1998). 'Capturing value from knowledge assets: The new economy, markets for know-how, and intangible assets', *California Management Review*, 40(3), pp. 55-79.
- [43] Wernerfelt, B. (1984). 'A resource-based view of the firm', *Strategic Management Journal*, 5 (2), pp. 171–180.
- [44] Williamson, O.E. (1999). 'Strategy research: governance and competence perspectives', *Strategic Management Journal*, 20(12), pp. 1087-1108.
- [45] Yin, R. (2003). *Case study research: design and methods*. Sage Publications, Thousand Oaks, CA.
- [46] Zollo, M., and S.G. Winter (1999). 'From organizational routines to dynamic capabilities', A working paper of Reginald H. Jones Center, The Wharton School WP 99-07.
- [47] Zollo, M., and S.G. Winter (2002). 'Deliberate learning and the evolution of dynamic capabilities', *Organization Science*, 13(3), pp. 339-351.
- [48] Zott, C. (2003). 'Dynamic capabilities and the emergence of intraindustry differential firm performance: insights from a simulation study', *Strategic Management Journal*, 24(2), pp. 97-125.

# Video Commercial Image Preference Study Through The Web Analytical Tool

**Shih-Yen Huang**

*Department of Industrial Design*

*Huafan University*

*1, Huafan Road, Shihding Township, New Taipei City, 22301, Taiwan, ROC*

*mark2a9239@gmail.com*

---

## Abstract

In the web Kansei image survey, one single perspective view, instead of multiple views for detailed product information, is often used for evaluation. Moreover, on-line video commercials are rarely seen in marketing survey. To solve the insufficient product information problem, this study integrates the eye tracking system to offer more precise data in addition to the multiple perspective views in the 2-dimensional web analytical system. For commercial image test, video files are added in the web analytical system. The web technique and quantitative analytical method are expected to help enterprises in their consumer attitude and image evaluation through video commercials. Through the web analytical system, the image and target user group preference analysis can be conducted for the references of marketing. In this study, four motorbike brands, SYM, KYMCO, YAMAHA, PGO, are used for the image preference survey. Through such a web analytical system, the coordinate values for the video commercials can be obtained for product positioning analysis in real time to select a proper video commercial with better image perceptions for further development. The survey verifies the suitability and feasibility of integrating video files with multiple views in the web analytical system. This will upgrade the total function and service of the web analytical system in new product design and marketing commercial development.

**Keywords:** Website Technique, Commercial Analysis.

---

## 1. INTRODUCTION

Video commercials can educate consumers, touch their hearts, and finally lead to the purchasing behavior. Consumers' cognition toward video commercials also affects the formation of their perceptions of enterprise's brand images. However, web analytical systems for the evaluation of video commercials are still rarely seen, most of which only deal with the wording and single graphics. In addition, single perspective views are often used in the Kansei semantic studies. The dynamic video commercials are rarely seen in Kansei studies; therefore, video commercial files are added in the web 2-dimensional analytical system in the study.

The use of web 2-dimensional analytical tools for product form image and marketing survey features the advantages of high return rate, interactivity, and avoids repeated surveys. More importantly, the adoption of interactive animated web software (Adobe Flash), dynamic Active Server Pages (ASP) programs for database retrieval and data calculation makes it possible to offer lively multi-angle interactive web pages. Furthermore, the integration of eye tracking system will generate precise data regarding product form features. Subject's personal data and coordinates of product evaluation can be directly stored in the database for objective quantitative analysis and instantly turned into output diagrams for references in new product design and marketing[1]. The purpose of this study is to make a breakthrough by adding dynamic video commercials for in-time viewing and evaluation.

To achieve the above evaluation and analytical functions in the web tool, dynamic video commercial files are added for references in new product development and marketing. In addition

to the positioning analysis of major competitors and target user group preference survey, the efficiency and functions in the web 2-dimensional analytical system are enhanced.

## **2. LITERATURE REVIEW**

This section covers the overview of related studies regarding web surveys, product presentation in image survey, development of web image survey system, and basic theoretical research about commercials.

### **2.1 Web survey**

Thanks to the popularity of Internet, there are more ways of information transmission and reception, and so are the interpersonal communication patterns. Such changes have encouraged more social science researchers to use Internet for investigating and collecting data [2,3]. The web surveys feature lower cost and faster speed in collecting the questionnaire [4]. More importantly, the subjects will feel lower sense of threat in answering sensitive questions [5]. These are the advantages and convenience brought forth by the Internet. Huang pointed out that the web survey has the following advantages: (1) sending large amounts of questionnaire immediately, (2) reducing costs, (3) individual design without interference of others, (4) encouraging the participation of the respondents, convenient in the interaction in user interface of graphics or video files for all times, (5) able to access people hard to reach such as doctors and superior executives [6]. According to Couper, the use and inference of results from the survey should be clearly defined and limited in the population [7]. Furthermore, web surveys need to pay attention to the following principles: (1) based on considerations of error, the survey content should be consistently relevant to the target user group; (2) the percentage of effective return should be maximized; (3) enhance the heterogeneity and representativeness of samples under the premise that the survey content is consistent with the target user population; (4) the subject's attitude level should be paid attention to in addition to the demographic variables in adjusting the web survey data [7,8,9]. In addition to the typical questionnaire form, the static graphics are mainly used in traditional web surveys. In advanced survey, the video files are used for consumer's attitude and preference evaluation. It is not often used in current web survey, which is one of the reasons why the dynamic video files are used in the 2-dimensional analytical system.

### **2.2 Product Presentation in Image Survey**

Hsu, et. al, made a study to compare the image perception of real and photographic product samples and found no significant differences in most product samples and image perceptions [10]. The website analytical system proposed in this study solved the shortage of insufficient information from single perspective views in general image survey systems. Instead, multiple perspective views are presented (SWF files). Moreover, the eye tracking system was combined for the product form preference investigation in this study so as to enhance the validity of product form image survey [1]. This study intends to transform animated video files (AVI, WMV, MOV, MP4, RM, etc.) into FLASH FLV files in the web analytical system. The operation scenario and preferences for video commercials are evaluated, which enhances the functions for Kansei measurement in video files in the analytical system.

### **2.3 Development of Web Image Survey System**

The frequently used image scale analysis was proposed by Kobayashi in Nippon Color & Design Research Institute (NCD). It uses visualized and systematic diagrams to help design team members focus and stay on the track of the previously set direction during design procedure. Since then, it has been used in product form image, graphic design and color analysis by the industry and design houses [11]. According to Chen, the image scale analysis (X-Y axes) is the most popular method used in the design houses in Taiwan, up to 54.5% of the companies he interviewed. This indicates the importance and practical value of the image scale technique in the design analysis in industry [12].

Though it is popular and easy for designers to comprehend 2-dimensional image scale in industries and design houses, how to generate an objective data has been a problem bothering



designers all the time. To solve such a problem, in a study of mineral water bottle images, Huang offered a 2-dimensional image analytical tool where coordinates subjects placed product samples were calculated for final gravitation centers were provided for a new objective quantitative analytical model [13].

However, how to further meet the requirements of researchers and subjects in the operation of web-based 2-dimensional image analytical system, namely, how to construct an objective and efficient system for the image scale analysis is still an issue worth investigation. In the web era, designers tend to share their concepts on line. More importantly, a cooperative design environment can be built up through the web technique so that designers in different environments can work together and share their design concepts through the Internet. In terms of web-based image survey, Roy and Kodkani integrated database and WWW and made it possible for each designer in a team to access the survey data through authorized password [14]. Huang, Lee and Mak efficiently integrated designers on line for the decision making in design procedure [15]. It is necessary for us to build up a web-based 2-dimensional image analytical system for product design analysis. In a study of the production of Multi-dimensional Scaling questionnaire, Tu adopted the world-wide web platform to construct the survey. From the WWW platform, it is possible for designers to generate website questionnaire and conduct the survey on line and automatically collect the data they need [16]. In addition, in a study of the measurement tool of visual image, Ikudame and Harada proposed a survey system to gather image data for references [17].

In terms of the development of image survey system, it is often limited to a single computer in the lab or to the input and output of the data subjects enter. Therefore, with multiple perspective views of product features (SWF) and video files (FLV) for survey mode, visual charts and diagrams can be offered for follow-up computation analysis and interpretation. This is one of the important features of the current study.

#### **2.4 Commercial Design**

Wells, Burnett, and Moriarty claimed that advertising is “a distinct sponsor” that attempts to persuade or influence people’s inhuman communication through the mass media [18]. Laviage suggested the stages of awareness, understanding, liking, preference, conviction, and buying stages before a potential consumer’s purchasing action, which is the effect of commercial communication [19]. Kotler divided the appeals of advertisements into three kinds: (1) Rational Appeals for the consumer’s self-interest, (2) Emotional Appeal that triggers a positive or negative motive to stimulate consumers to buy products, and (3) Moral Appeal mainly for public interest advertisements. In addition, advertisements can help enterprises uplift their corporate images through the improvement of customer’s trust and impressions of the enterprise [20]. Sandage pointed out that advertising could inform the members of a community about the products, services and concepts, making the whole society prosperous [21]. In addition, advertising can increase consumer’s judgment in making decisions of purchasing action. Wang defined advertising as an information communication technology to let people know the goods or services, and convince them to purchase these products [22]. According to these concepts, the author made a survey for the consumer’s preferences toward video commercials based upon Kotler’s three appeals. Narrowly speaking, the consumer’s attitude toward an advertisement can be referred to as the degree of preference consumers have toward the advertisement. Advertising effectiveness emphasizes the change of consumer’s attitudes. In the definition of broadcasting, convincing is a kind of attitude change. In general, a good attitude is likely to result in a positive behavior to purchase commodity. According to Mitchell & Olsen and Shimp, the attitudes customers have for advertisement (good, bad, like it or not), cause the formation of consumer’s attitudes to a brand [23,24]. Lutz considered that such kind of attitude can be referred to as the tendency whether a specific advertisement can stimulate consumer’s preference under certain exposures [25]. Lutz, MacKenzie & Belch claimed that consumer’s attitude of an advertisement can be measured by cognitive and affective aspects. Consumer’s awareness and the extent of the evaluation for advertising can be measured from cognitive point of view while the degree of preference consumers have toward the advertisement can be measured from the affective side

[26]. Measurements from these two dimensions are better than the direct overall attitude. According to these studies, the author made a survey of consumer's preferences toward enterprise's brand from affective dimension and attraction of advertisement from the cognitive dimension in the 2-dimensional analytical system.

Generally speaking; three categories of messages are expected to deliver in video commercials. One is the overall corporate image of the enterprise; the other is product advertising informing new product or introducing the product features; another is the promotional advertising announcing the discounts, lower prices or bonus gift giving. In this study, the video commercials appeal for the overall corporate image and product advertising, in which consumer's preferences are explored.

In terms of advertising spokesperson, Hovland, Janis and Kelley pinpoint two parts of convincing communication: (1) persuading ability of the message itself, (2) persuading ability of the information sources (the advertising spokesperson) [27]. When consumers do not trust the source of the message, even if the message itself is very reasonable and credible, consumers may ignore the message and have low comprehension of the commercial. Therefore, the credibility of the message source (Source Credibility) is one of the most important factors affecting advertising effectiveness. What the advertising spokesperson conveys to consumers is a kind of product message. Kahle and Pamela considered the credibility of spokesperson comes from his or her expertise, trustworthiness, and attractiveness [28]. The expertise refers to the fact that the spokesperson has demonstrated proficiency in product presentation, indicating that he or she is considered to be the source of correct knowledge. Trustworthiness refers to the need to have an honest spokesperson, competent and other features so that consumers will believe that the information provided is objective and honest. Attractiveness refers to that fact that the spokesperson is attractive and able to draw the attention of consumers. In general, there are three kinds of product spokesperson: (1) celebrity: a well-known figure that has outstanding performance in some certain fields other than the products and that has high reputation to the general public such as entertainers and athletes; (2) professional experts: those who have professional knowledge on the product category they promote because of their experience or learning; (3) the typical consumer: the average consumer that has no particular reputation or expertise [29]. In this study, the product spokesperson of SYM belongs to the professional expert (General Manager); the one for KYMCO is also a professional expert (Deputy General Manager). These two brands were endorsed by professional experts while YAMAHA PGO is endorsed by a typical consumer, an interim prime young actor for the endorsement plot.

As far as the consumer involvement is concerned, it is referred to as the degree consumer spending time and effort in collecting and evaluating data in the consumer decision-making process. In the study of consumer behavior, the involvement concept has been playing an important role. Consumer involvement of products is an important variable in executing advertising strategies [30]. Under situations of different consumer involvements of products, the degree of consumer involvement will determine whether the consumer will actively or passively receive the advertising messages. More importantly, it will influence consumer's purchasing decisions and gathering of associated product information, thus limiting or extending the self-communication process. Early scholars explored the concept of involvement from different views of application and generate different definitions and measurement methods for involvement. The concept was first proposed in the advertising domain by Krugman, who considers involvement as the frequency of the combination of the advertising messages and personal life experiences [31]. Bloch and Richin argue that involvement is the degree of importance consumers place on products or personal subjective significance consumers give to a specific product [32]. Zaichkowsky defined involvement as personal attachment perceived from a specific thing based upon one's inherent needs, values and interests, and summarized three factors for the sources of involvement, including personal, product, and situational factors [33]. Personal factors include internal values, self-concept, interests and needs, product knowledge and past experience. Product factors refer to the characteristics of the product or service causing consumers to get involved, including product price, product feature, durability, importance, product symbolic

significance, and so on product attributes. Situational factors are elements to increase consumer's concern or interests in specific things, including the purchase situation, the use scenarios, purchase time pressures, product promotion environment, and so on. While there are various definitions for involvement, there are some parts in common. Lee and Mittal defined involvement as personal perceived value of the goal-object, representing one's interest in the target subject [34]. Such a target subject can be either the product itself (product involvement) or purchase decision (brand decision involvement). The reason why consumers are interested in a particular product category lies in that fact that the product meets important personal values and consciousness of goals. And purchase involvement or brand decision involvement indicates that consumers are interested in making decisions to buy a product or to select a brand. Therefore, through the web 2-dimensional analytical system, this study explores the contents of different motorbike video commercials and consumer's involvement so as to understand consumer's preferences towards different brands and products.

### **3. ADD VIDEO FILES OF COMMERCIALS IN WEB ANALYTICAL TOOL**

In this study, through a combination of Internet technology and database, video files were added in the analytical system. Researchers can set up the initial specifications for survey and conduct a pilot test through the test page. The user interface can be revised for formal survey. After the web survey is completed, the investigator can obtain the coordinates from the accumulated entry data through the ASP server program. At last, charts and diagrams can be downloaded immediately for further analysis. The needs for different stages are discussed as follows:

#### **(1) Set up project data by the researcher**

The operation interface for a project can be set up by the researcher. Following the steps and upload the test samples, a research project can be established for subjects to fill in.

##### **a. Project data set up:**

The basic data of the web analytical system include first page (Project title, Purpose of research, Survey unit and title) as well as the demographic variables like gender, age, and profession.

##### **b. Test sample file format and upload:**

Select Adobe Flash for product samples to test. Acceptable formats are .jpg for static images, .swf for dynamic images, and .flv for video files. The Persits Software ASPUPLOAD in current ActiveX Server can be used for uploading.

##### **c. Set up key words for the web analytical system:**

In addition to Soft-Hard and Warm-Cool of NCD, researchers can enter key words for project survey. Ways for setting up image words include:

(a) Semantic survey of multiple image word pairs from which factor analysis can be performed to choose two major words (X, Y axes) [35].

(b) Choose image words proposed by related product form studies. For example, preference and purchase intention along axes of the 2-dimensional analytical system are usually adopted to investigate the differences among different user groups for market segmentation [36,37].

(c) Collect image words from product catalog or use the image words from the client.

After group discussions with enterprise delegators, brand preference was adopted for the affective dimension and commercial attractiveness was used for the cognitive dimension, according to the study of Lutz, MacKenzie and Belch, for further survey in the study [26].

#### **(2) Project survey**

After subjects received notice of investigation by the system, they can access the system and enter their basic data to conduct the survey on line.

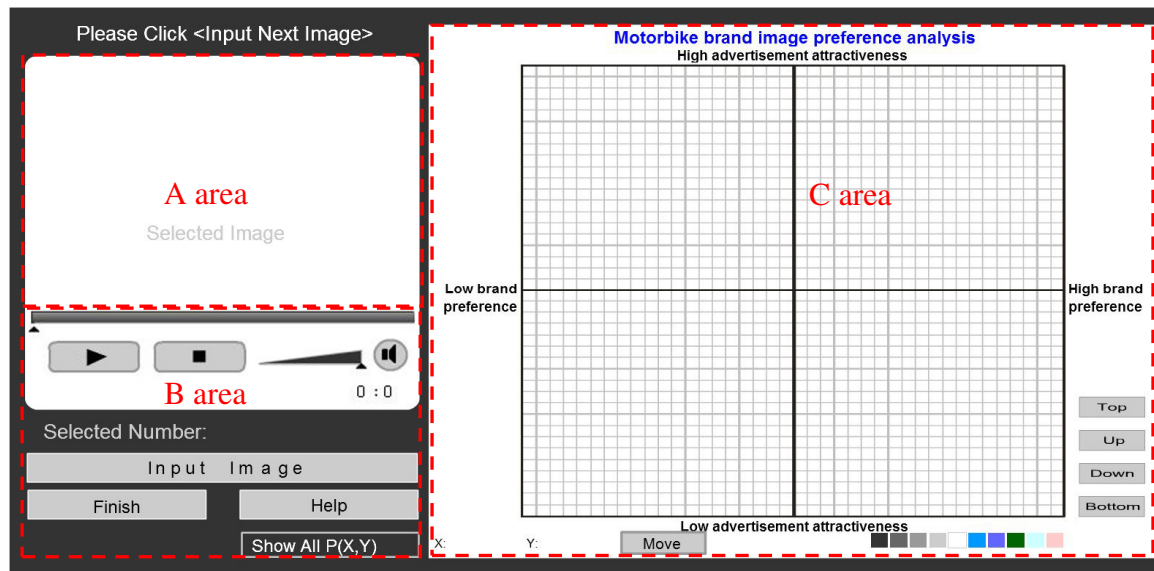
a. Enter the basic data

Subjects enter their basic data such as age, gender, profession, educational degree, and so on by key in or pull-down menu. After the subject completes the basic data, a click of the lower Finish button will lead to the test page in 2-dimensional analytical system.

b. Test in 2-dimensional analytical system

In the test page of 2-dimensional analytical system, when the subject presses down the Input Image button in B area, there will be two parts to present the dynamic contents of the test video commercial. The upper left area is the display area. Video files are presented in A area, a 300\*300 pixels window port. The evaluation area is on the right side of the 2-dimensional analytical system, a 500\*500 pixels window port in C area. The subjects follow the order to finish the evaluation in the system. All the basic data and product coordinates will be stored in the database for further calculation of the gravity centers. In the video interface, when there are video files for product operation survey on line, the video control button will be shown while a hidden SWF controls the user interface.

Figure 1 illustrates the interface of video file control in 2-dimensional analytical system. A area is the video presentation window and B area covers the control buttons (Input Image, Finish, Help, Play (▶), Pause (■), Mute and Volume control sliding button, time axis and Time display). C area shows the locations of graphics for video files.



**FIGURE 1:** The interface of video files control in 2-dimensional analytical system.

(3) Project survey output data

The output data can offer different formats of quantitative data for further statistical analysis. Through the subject data output set up interface, researchers can download subject personal data by setting up the classification of gender, age, educational degree, and profession. For the output coordinates of test video file, researchers can download all subjects' coordinates and gravity centers of all test video file. These data for specific user groups are also available. They can be downloaded by HTML or EXCEL formats for further statistical analysis.

(4) Output of diagrams and tables

In addition to the required quantitative data, researchers can download graphic charts from the Download graphic data interface. The distribution patterns of product gravity centers and coordinates of single product sample can be prompted by marking the target user group or specific product sample. Moreover, Manova can be conducted by the combination of subject's

demographic variables and coordinates of gravity centers. The graphic diagrams can be compared and contrasted with the statistical output data.

#### 4. PROCEDURE OF IMAGE SURVEY OF VIDEO COMMERCIALS

Firstly, motorbike commercials were gathered from Youtube for data collection. Four motorbike brands, including SYM (A), KYMCO (B), YAMAHA (C), and PGO (D), are chosen as the survey target. Files were selected based upon the appeal of corporate brand image. The MP4 files in Youtube were converted into .flv files through Flash for subsequent commercial image preference survey in the 2-dimensional analytical system. According to Lutz, MacKenzie and Belch, brand preference is used along affective dimension (X Axis), and advertisement attractiveness is used along cognitive dimension (Y axis) for the survey of motorbike commercial image survey [26]. Video files located in first quadrant will be better preferred and brands with high advertisement attractiveness will be the major competition companies. A total of 154 subjects were invited for the survey. It is hoped to select the most preferred motorbike commercial brands from an objective survey and analysis.

The contents of four motorbike commercials are summarized as follows: SYM is endorsed by the General Manager Huang Kwangwu to offer professional and reliable engine cylinders and honest image; KYMCO is endorsed by Vice General Manager Ko Junbin to provide vibration and noise test report for a professional, reliable, and honest image; YAMAHA is done by the typical consumer endorsement, providing the image of youth and vitality of young people; PGO is also endorsed by a young typical consumer, providing an image of friendship through fixing motorbile together. These images of motorbike video commercials are shown in Figure 2.

<p><b>SYM</b> <a href="https://www.youtube.com/watch?v=XTFrALFKEY4">https://www.youtube.com/watch?v=XTFrALFKEY4</a></p> 	<p><b>KYMCO</b> <a href="https://www.youtube.com/watch?v=YYhmemLRjIO">https://www.youtube.com/watch?v=YYhmemLRjIO</a></p> 
<p>Professional and expert endorsement, providing expertise and reliable engine, honest image.</p>	<p>Professional and expert endorsement, provide testing vibration, noise reports and professional, reliable, honest image.</p>
<p><b>YAMAHA</b> <a href="https://www.youtube.com/watch?v=XIhXhNRvWf0">https://www.youtube.com/watch?v=XIhXhNRvWf0</a></p> 	<p><b>PGO</b> <a href="https://www.youtube.com/watch?v=TILCxLGq_1A">https://www.youtube.com/watch?v=TILCxLGq_1A</a></p> 
<p>Typical consumer endorsement, providing youthful image.</p>	<p>Typical consumer endorsement, providing images of friendship and cooperation.</p>

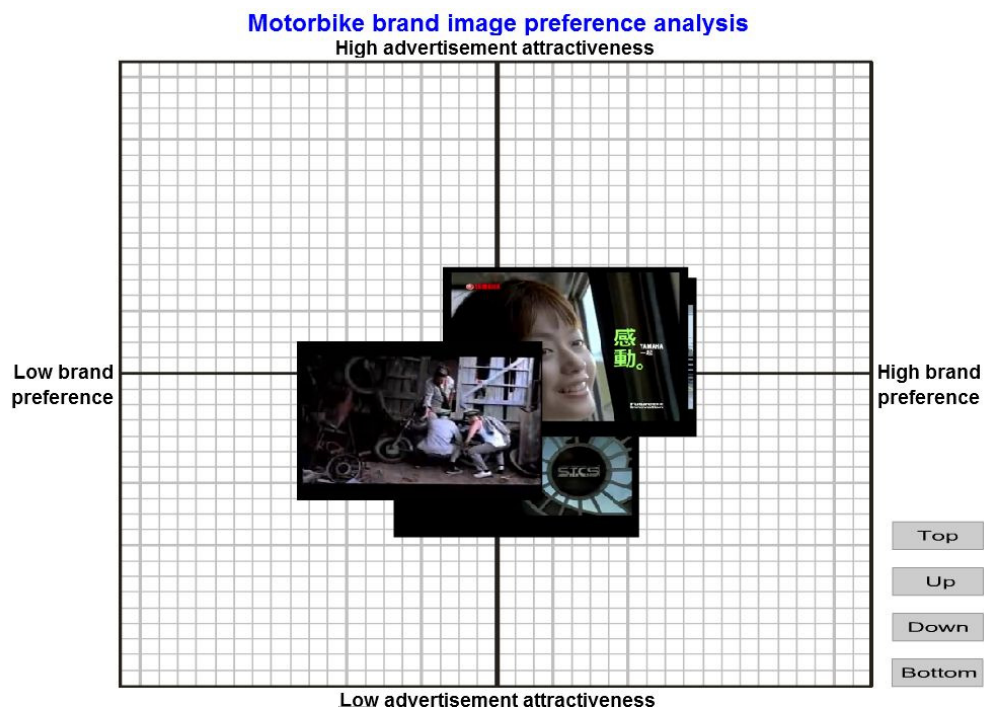
FIGURE 2: Contents of four motorbike video commercials.

## 5. MOTORBIKE BRAND IMAGES IN WEB ANALYTICAL TOOL BY VIDEO COMMERCIALS

The motorbike commercial image test was conducted through video files of SYM, KYMCO, YAMAHA, and PGO brands online. In terms of vocabulary, the brand preference (X-axis) and advertisement attractiveness (Y-axis) are adopted for brand image and target group preferences survey.

### 5.1 Image Preferences of Motorbike Video Commercials

In the web survey, 154 subjects were invited for preference evaluation. After 10 work days, the gravitation center of each video commercial was calculated. At last, the screening of four motorbike video commercials was conducted through the output position diagram. The benchmark motorbike video commercial was selected for subsequent preference check of target user group. The distribution of subject's preferences towards four motorbike video commercials is illustrated in Figure 3.



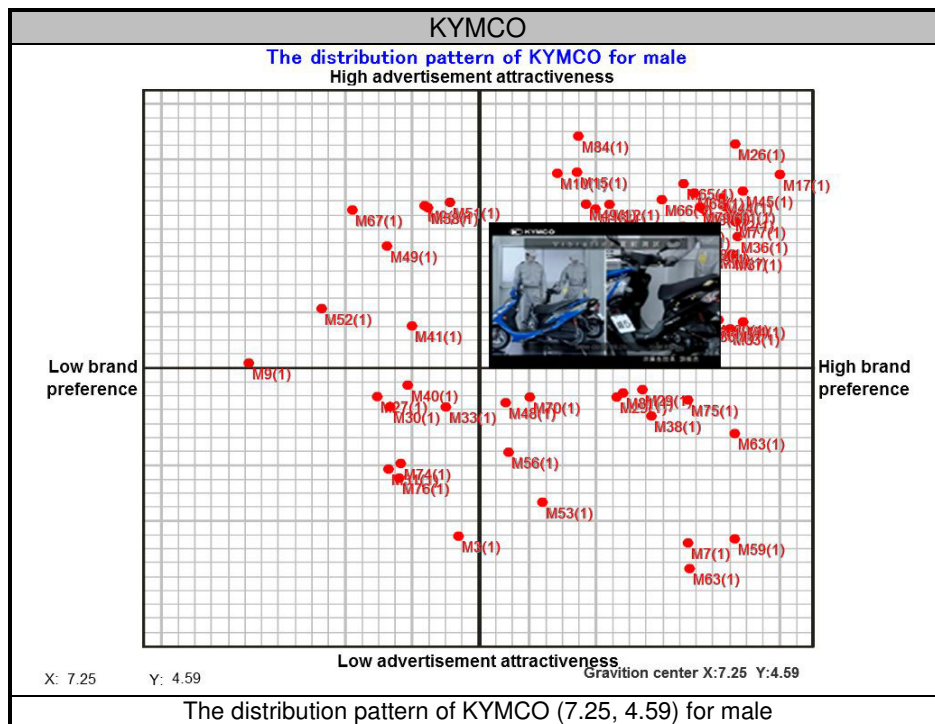
**FIGURE 3:** The distribution of subject's preferences towards four motorbike video commercials.

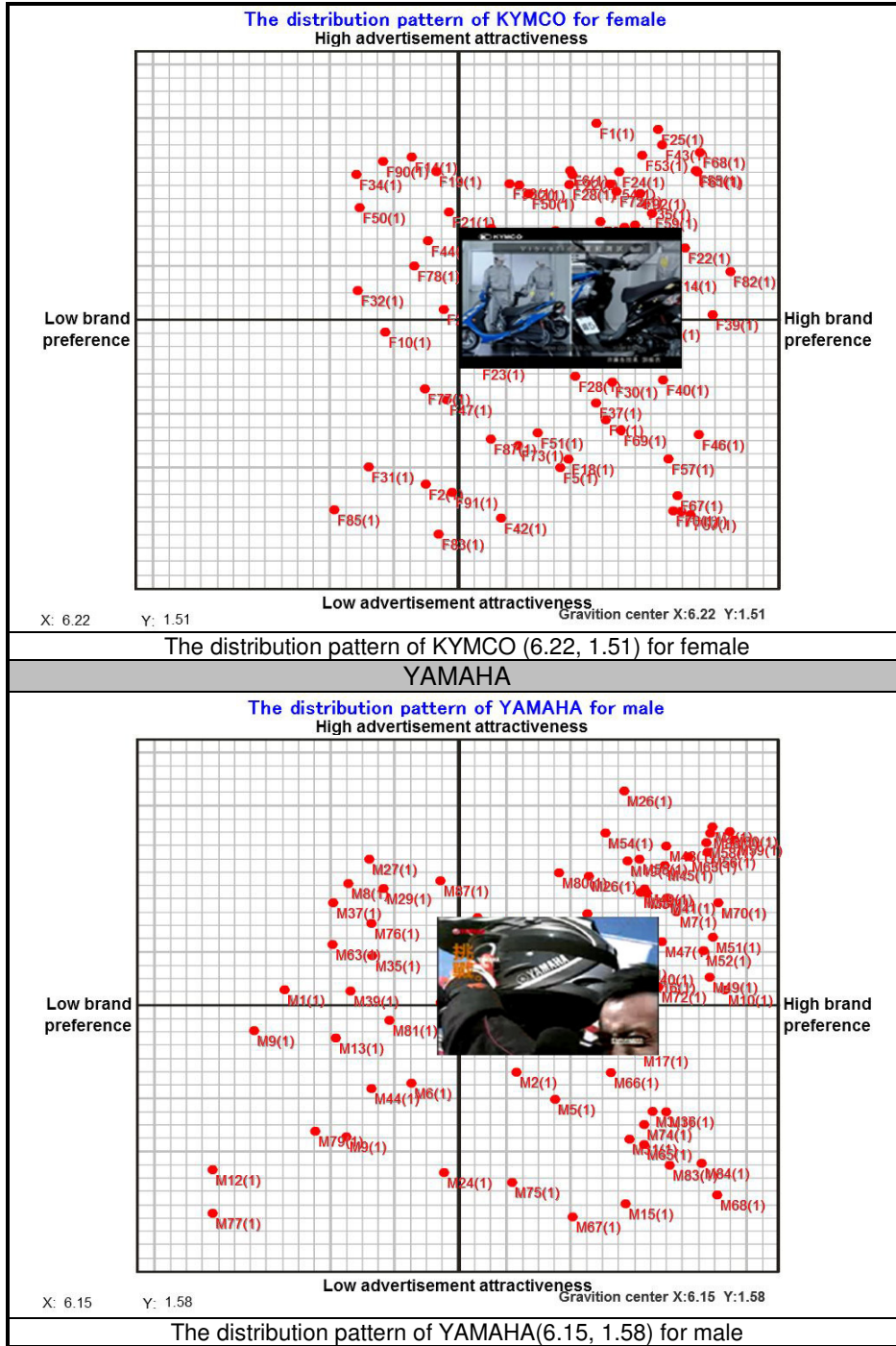
Through the positions of four motorbike video commercials, the raw data of subject's evaluation scores were adopted for multivariate statistical analysis. The result of one-way MANOVA indicates that Wilks' Lambda  $F=27.69$ ;  $p \text{ value} < 0.00 (< 0.05)$ , meaning that there exist significant differences among four motorbike video commercials. Moreover, through marginal tests, it is found that these four motorbike video commercials are significantly different along X axis ( $F=36.52$ ;  $p \text{ value} < 0.00 < 0.05$ ) and Y axis ( $F=24.26$ ;  $p \text{ value} < 0.00 < 0.05$ ). This demonstrates that these video commercials are significantly different in terms of brand preference (X axis) and advertisement attractiveness (Y axis). Furthermore, the Duncan post hoc test divides these four video commercials into several clusters. Along X axis of brand preference evaluation, KYMCO (6.71) and YAMAHA (6.27) are the highly preferred brands, and YAMAHA (3.69) and KYMCO (2.99) are much more attractive along Y axis of advertisement attractiveness. As a result, KYMCO and YAMAHA are two major competition brands; their video commercial designs are worth of design references. They are located in first quadrant in that the values of brand preference (X value) and advertisement attractiveness (Y value) are both positive and can be set as high preference area in the market. The final gravitation centers for these four motorbike video

commercials are SYM (3.58, -3.41), KYMCO (6.71, 2.99), YAMAHA (6.27, 3.69), and PGO (-1.51, -1.05) respectively. Consequently, KYMCO and YAMAHA video commercials are selected for further target user group preference study.

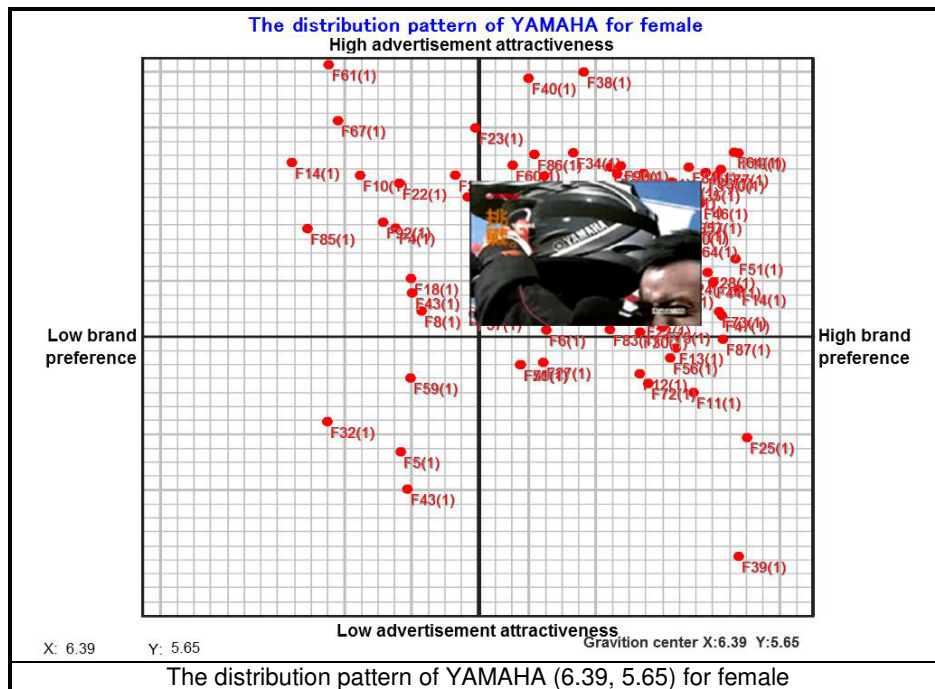
### 5.2 Target User Group Preferences of Motorbike Video Commercials

In this study, two major competition brands, KYMCO and YAMAHA video commercials, are selected for target user group analysis in terms of genders and user groups. The data can be downloaded through the Download graphic data interface. Potential user groups are male and female consumers. To check whether there exist significant differences between male and female consumers in their preferences in KYMCO, YAMAHA video commercials, the distribution of scatter diagram and gravitation centers can be generated as can be seen in Figure 4. From the system, the gravitation centers for KYMCO video commercial are (7.25, 4.59), and (6.22, 1.51) for male and female user groups respectively. It is clear that the gravitation centers for these two user groups are located in first quadrant, meaning that KYMCO are a brand highly preferred by these two user groups. For YAMAHA video commercial, its gravitation centers are (6.15, 1.58) and (6.39, 5.65) for male and female groups respectively. It is clear that YAMAHA is also a highly preferred brand in that it is located in first quadrant. Through the 2-dimensional analytical system, it is possible to generate the potential user group's preference for one single video commercial sample in real time, which is helpful for future marketing and promotion study.









**FIGURE 4:** The distribution pattern of KYMCO and YAMAHA for male and female target user groups.

Furthermore, to explore whether there exists significant difference between these two target user groups in terms of video commercial preferences, the coordinates of the subjects of two potential user groups in terms of product brand preference and advertisement attractiveness are used for t test. The result showed that in the total test, Wilks' Lambda  $p$  value=0.016<0.05;  $F = 4.445$ , indicating that there existed significant differences among two potential user groups along product form salience and purchase intention. Moreover, marginal tests showed significant differences between two potential user groups along purchase intention axis ( $F = 8.823$ ;  $p$  value=0.004(<0.05)) but no significant difference was found between male and female user groups in product form salience axis ( $F = 0.991$ ;  $p$  value 0.324(>0.05)). Therefore, male user group whose purchase intention is higher can be selected as the target user group for Sample S16. This kind of data is helpful for marketing personnel.

For preferences of KYMCO video commercial, the average values of brand preference (X axis) for male and female user groups are 7.25 and 6.22 respectively;  $t=0.91$ ;  $p=0.37$  (>0.05), indicating no significant difference between male and female groups in brand preference. Therefore, KYMCO can be referred to as the popular brand in the mass market. In terms of advertisement attractiveness (Y axis), the average values of male and female user groups for KYMCO video commercial are 4.59 for male consumers and 1.51 for female consumers;  $t=2.32$ ;  $p=0.01$  (<0.05), demonstrating that there is significant difference between male and female user groups in the attractiveness viewpoint. Male subjects have much higher score of advertisement attractiveness than that of female group, indicating that the professional expert endorsement and performance test of motorbike are more attractive to male consumers.

For preferences of YAMAHA video commercial, the average values of brand preference (X axis) are 6.15 for male user group and 6.39 for female user group;  $t=-0.18$ ;  $p=0.43$  (>0.05), indicating no significant difference between male and female groups in brand preference. Therefore, YAMAHA can also be referred to as the popular brand in the mass market. In terms of advertisement attractiveness (Y axis), the average values of male and female user groups for YAMAHA video commercial are 1.58 for male consumers and 5.65 for female consumers;  $t=-3.18$ ;  $p=0.00$  (<0.05), demonstrating that there is significant difference between male and female user groups in terms of advertisement attractiveness. Male subjects have much higher score of

advertisement attractiveness than that of female group, indicating that the professional expert endorsement and performance test of motorbike are more attractive to male consumers. The video commercial of YAMAHA is more attractive to female user group for the reason that they use typical young female actress for a young style plot. Table 1 shows the results of t tests for these two motorbike video commercial preference and attractiveness evaluation. The result can be used for references in follow-up product marketing promotion.

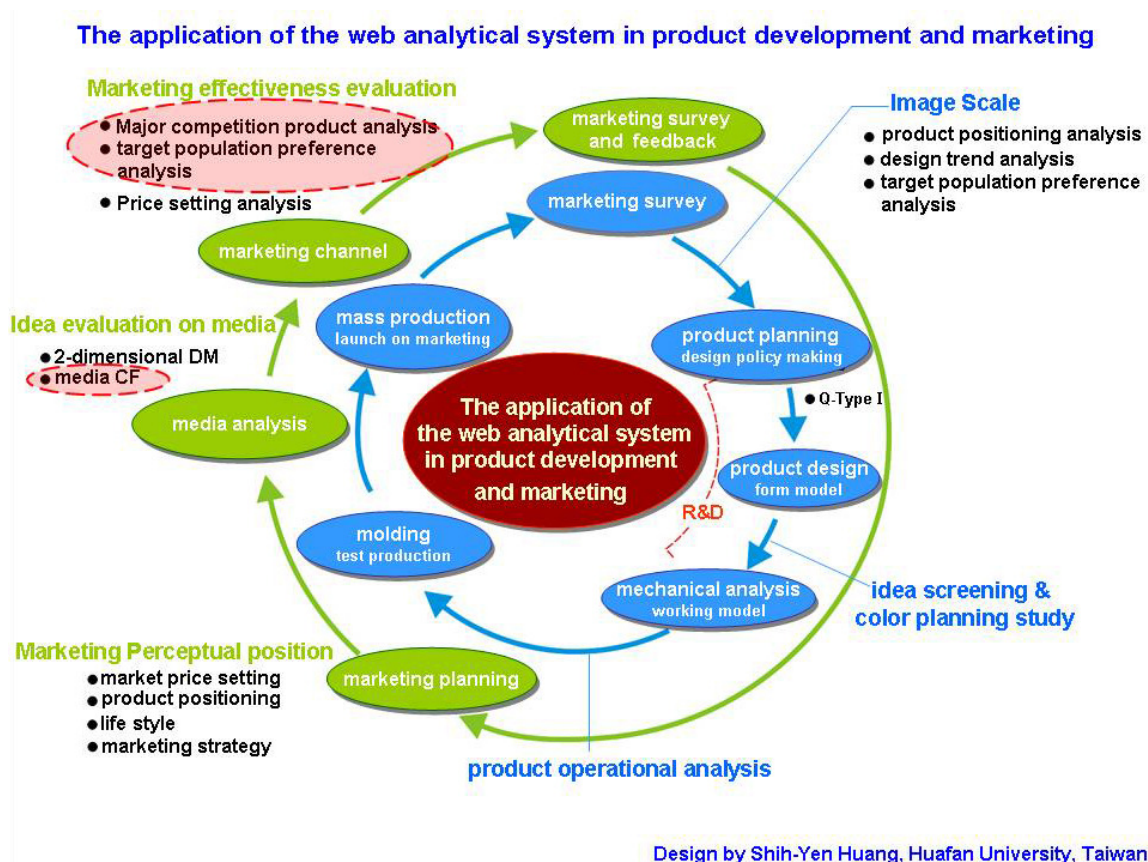
**TABLE 1:** The results of t tests for KYMCO and YAMAHA motorbike video commercial in preference and attractiveness evaluation.

t test	Numbers	Avg (male)	Avg (Female)	t	P value	Significance
KYMCO_X axis	Male 74/ Female 80	7.25	6.22	0.91	0.18	No significant difference
KYMCO_Y axis		4.59	1.51	2.32	0.01	Significant difference
YAMAHA_X axis		6.15	6.39	-0.18	0.43	No significant difference
YAMAHA_Y axis		1.58	5.65	-3.18	0.00	Significant difference

## 6. CONCLUSIONS AND SUGGESTIONS

The study results demonstrated that the interactive interface and video commercials can help subjects uplift their judgment and precision in measurement of the 2-dimensional web-based analytical system. By adding video files of four motorbike brands in the system, researchers can select major competition brands quickly from the brands whose positions are located in first quadrant. In this study, KYMCO and YAMAHA video commercials are highly preferred by the consumers. Moreover, the researcher can investigate whether there exist significant differences among major competition brands in potential target user groups in terms of their preferences. This can be done by the Download graphic data export interface in the system. The distribution patterns of coordinates and gravitation centers of major motorbike brands, KYMCO and YAMAHA in this study, show no significant differences between male and female user groups in terms of brand preference. They can be considered the popular brands in the mass market. However, in terms of advertisement attractiveness, there exist significant differences between male and female user groups for KYMCO and YAMAHA video commercials. Male consumers think KYMCO video commercial much more attractive while female consumers have a much higher opinion for YAMAHA video commercial in advertisement attractiveness. It is clearly evident that there are remarkable differences between two major competition motorbike brands in drawing the attention of potential target user groups in their advertising strategy. The provision of video files of corporate images is helpful for the design of commercials and marketing promotion in the future.

Finally, the web analytical system proved appropriate for product development and marketing application. In product development, product positioning analysis, fashionable trend analysis, target user group preference analysis, product feature analysis can be applied in the areas from market research to product planning for design references. In product design, mechanical design, mold design, and mass production, the idea screening, color preference studies, and product operational analysis are practicable. For marketing promotion, this system can offer market price analysis, commodity positioning analysis, marketing strategy analysis, life style analysis, and price acceptance analysis. For media design, marketing channel and promotion and feedback, the screening of graphic DM and CF advertisement can be adopted. At last, major competition product analysis, target user group preference analysis, and price setting analysis can be executed for the marketing effectiveness evaluation. It is suggested to apply CF videos for commercial preference and marketing effectiveness survey. The application of the web analytical system in product development and marketing is illustrated in Figure 5.



**FIGURE 5:** The application of the web analytical system in product development and marketing.

## 7. REFERENCES

- [1] Jih-Shyong Lin, Shih-Yen Huang. "Apply Web-based Analytic Tool and Eye Tracking to Study The Consumer Preferences of DSLR Cameras," International Journal of Business Research and Management (IJBRM), Volume (4) : Issue (4), November, pp. 99-110, 2013.
- [2] Coomber, R. "Using the Internet for survey research," Sociological Research Online, 2 (2). Available: <http://www.socresonline.org.uk/2/2/2.html> [1997]
- [3] Stone, J., Perry, Z. W., & Darley, J. M. "White men can't jump" :Evidence for the perceptual confirmation of racial stereotypes following a basketball game, 1997.
- [4] Davis, G. "Are internet surveys ready for prime time? " Marketing News, v31 (8) , 1997, pp. 31-32.
- [5] Walsh, J. P., Kiesler, S., Sproull, L. S., & Hesse, B. W. "Self-selected and randomly selected respondents in a computer network survey," Public Opinion Quarterly, 56, 1992, pp. 241-244.
- [6] Huang, Chun Yin. "The world of marketing, the fourth edition," Common Wealth Publishing Company, Taipei, Taiwan (in Chinese) , 2007.
- [7] Couper, M. P. "Web surveys: a review of issues and approaches," Public opinion Quarterly, 64(4), 2000, pp. 464-494.
- [8] Dillman, D. A. "Mail and Internet surveys--The tailored design method," New York : John Wiley & Sons, Inc, 2000.

- [9] Kaye B.K. & Johnson T.J. "Research Methodology: Taming the Cyber Frontier," *Social Science Computer Review*, 17, 1999, pp. 323-337.
- [10] Hsu, Shang Hua and Chuang, Ming-Chuen, Chang, Chien-Cheng. "A differential study on product image perception between real product and photographic images," *Chinese Journal of Industrial Engineering*, Vol.17, No. 2, pp. 169-179, 2000.
- [11] Kobayashi Shigenobu. "Color image scale," published by Kodansya International Ltd, Japan, 1991.
- [12] Chen, C. K. "Design methods frequently adopted by local design houses in Taiwan," unpublished master's thesis, National Taiwan University of Science and Technology, 2003.
- [13] Huang, Shih-Yen. "Conducting new mineral water design and development through the lock on of target market," *Chung Yuan Journal of Design*, Taiwan, Vol. 8, No. 2, pp. 1-23, 2005.
- [14] U.Roy, S.S. Kodkani. "Collaborative product conceptualization tool using web technology," *Computers in Industry* 41, 2000, pp 195-209.
- [15] Huang, G. Q., Lee, S.W. and Mak, K.L. "Web-based product and process data modeling in concurrent design for X," *Robotics & Computer-integrated Manufacturing*, 1999, pp. 53-63.
- [16] Tu, C. S. "The development of the web-based global interactive MDS questionnaire survey," *Journal of Design*, Vol.2, No.1, 1997, pp 1-15.
- [17] Ikudame, Miki and Harada, Akira. "The Tool for Measurement of Visual Image," *Bulletin of JSSD*, pp.114, 1997.
- [18] Wells, Willian, John Burnett and Sandra Moriarty. "Advertising: Principles and Practice," Prentice-Hall, Englewood Cliffs, NJ, 21, 1992.
- [19] Lavidge, Robert J. and Gary A. Steiner. "A model for predictive measurements of advertising effectiveness," *Journal of Marketing*, pp. 59-62, 25(October),1961.
- [20] Philip Kotler. "Marketing management: analysis, planning, implementation, and control," Prentice-Hall, 1988, pp. 776.
- [21] Charles H. Sandage. "Some Institutional Aspects of Advertising," *Journal of Advertising*. Vol. 1: 1, pp. 9, 1973.
- [22] Wang, Tsaokuo. "How to make the advertisement work?" Tah Jann Publishing Company, Taipei, Taiwan, 1985. (in Chinese).
- [23] Mitchell, Andrew A. and Jerry C. Olson. "Are product attribute beliefs the only mediator of advertising effects on brand attitude?" *Journal of Marketing Research*. 18(August), 1981, pp. 318-332.
- [24] Shimp, T.A. "Attitude Toward The Ad As A Mediator Of Consumer Brand Choice," *Journal of Advertising*, Vol. 10 No.2, pp. 9-48, 1981.
- [25] Lutz, R.J. "Positivism, "Naturalism and Pluralism in Consumer Research: Paradigms in Paradise," 1-7 in T.S. Srull (ed.), *Advances in Consumer Research*, Vol. 16 , 1989. (Provo, UT: Association for Consumer Research).
- [26] Lutz, R.J. MacKenzie, S. B., & Belch, G. E. "Attitude toward the ad as a mediator of advertising effectiveness: Determinants and consequences," *Advances in consumer research*,10(1), 1983, pp. 532-539.

- [27] Hovland, C. I. & Janis, I.L. & Kelly, H.H. "Communication and 44 Persuasion", New Heaven: Yale University Press, 1953.
- [28] Kahle, Lynn R., and Pamela M. Homer. "Androgyny and Midday Mastication: Do Real Men Eat Quiche ?" in *Advances in Consumer Research*, Vol. 12, ed, 1985.
- [29] Friedman, Hershey H. and Linda Friedman. "Endorser Effectiveness by Product Type," *Journal of Advertising Research*, pp.63-71, 19, October, 1979.
- [30] Cohen S, Kamarck T, Mermelstein R "A Global Measure of Perceived Stress," in *Journal of Health and Social Behavior*, 24, pp. 385-39., 1983.
- [31] Krugman, Herbert E. "The impact of television advertising: Learning without involvement," *Public Opinion Quarterly*, Vol 29(3), 1965, pp. 349-356.
- [32] Bloch, P. H. & M. L. Richins. "A theoretical model for the study of product importance perceptions," *Journal of Marketing*, Vol.47 (Summer), pp.69-81,1983.
- [33] Zaichkowsky, J. L. "Conceptualizing involvement," *Journal of Advertising*, 15(2), 1986, pp. 4-14.
- [34] Myung-Soo Lee and B. Mittal. "A Casual Model of Consumer Involvement," *Journal of Economic Psychology*, Vol. 10, No. 3, pp. 363-389, 1989.
- [35] Huang, Shih-Yen and Kuo, Cheng-Peng. "Apply web-based analytic tool in stapler product form design," *Communication and Engineering – Meen, Prior & Lam (Eds) © 2014 Taylor & Francis Group*, London, pp. 587-590, 2014.
- [36] Wind, Y. "Issues and Advances in Segmentation Research," *Journal of Marketing Research* 15, pp317–337, 1978.
- [37] Green, P. E. "A New Approach to Market Segmentation," *Business Horizons*, Vol. 20, 1977, pp. 61–73.

## INSTRUCTIONS TO CONTRIBUTORS

As a peer-reviewed journal, *International Journal of Business Research and Management (IJBRM)* invite papers with theoretical research/conceptual work or applied research/applications on topics related to research, practice, and teaching in all subject areas of Business, Management, Business research, Marketing, MIS-CIS, HRM, Business studies, Operations Management, Business Accounting, Economics, E-Business/E-Commerce, and related subjects. IJBRM is intended to be an outlet for theoretical and empirical research contributions for scholars and practitioners in the business field.

IJBRM establishes an effective communication channel between decision- and policy-makers in business, government agencies, and academic and research institutions to recognize the implementation of important role effective systems in organizations. IJBRM aims to be an outlet for creative, innovative concepts, as well as effective research methodologies and emerging technologies for effective business management

To build its International reputation, we are disseminating the publication information through Google Books, Google Scholar, Directory of Open Access Journals (DOAJ), Open J Gate, ScientificCommons, Docstoc and many more. Our International Editors are working on establishing ISI listing and a good impact factor for IJBRM.

The initial efforts helped to shape the editorial policy and to sharpen the focus of the journal. Starting with Volume 7, 2016, IJBRM will be appearing with more focused issues. Besides normal publications, IJBRM intend to organized special issues on more focused topics. Each special issue will have a designated editor (editors) – either member of the editorial board or another recognized specialist in the respective field.

We are open to contributions, proposals for any topic as well as for editors and reviewers. We understand that it is through the effort of volunteers that CSC Journals continues to grow and flourish.

### IJBRM LIST OF TOPICS

The realm of International Journal of Business Research and Management (IJBRM) extends, but not limited, to the following:

- Interdisciplinary Research Relevant to Business,
- Business Accounting
- Business Model and Strategy
- Case Studies
- Customer Relationship Management
- E-commerce, Collaborative Commerce and Net-enhancement
- Finance & Investment
- General Management
- Globalisation, Business and Systems
- Labor Relations & Human Resource Management
- Management Systems and Sustainable Business
- Business & Economics Education
- Business Law
- Business Processes
- Cross-Culture Issues in Business
- Decision Support and Knowledge-based Systems
- Economics Business and Economic Systems
- General Business Research
- Global Business
- Knowledge Management and Organisational Learning
- Management Information Systems
- Managing Systems

- Marketing Theory and Applications
- Organizational Behavior & Theory
- Production/Operations Management
- Public Responsibility and Ethics
- Strategic Management Policy
- Technologies and Standards for Improving Business
- Technopreneurship Management
- Value Chain Modelling Analysis Simulation and Management
- Modelling Simulation and Analysis of Business Process
- Production and Operations Systems
- Public Administration and Small Business Entrepreneurship
- Strategic Management and Systems
- Supply Chain and Demand Chain Management
- Technology & Innovation in Business Systems
- Trust Issues in Business and Systems
- Value-based Management and Systems

### **CALL FOR PAPERS**

**Volume: 7 - Issue: 1**

**i. Submission Deadline :** December 31, 2015

**ii. Author Notification:** January 31, 2016

**iii. Issue Publication:** February 2016

## **CONTACT INFORMATION**

### **Computer Science Journals Sdn Bhd**

B-5-8 Plaza Mont Kiara, Mont Kiara

50480, Kuala Lumpur, MALAYSIA

Phone: 006 03 6204 5627

Fax: 006 03 6204 5628

Email: [cscpress@cscjournals.org](mailto:cscpress@cscjournals.org)



CSC PUBLISHERS © 2015  
COMPUTER SCIENCE JOURNALS SDN BHD  
B-5-8 PLAZA MONT KIARA  
MONT KIARA  
50480, KUALA LUMPUR  
MALAYSIA

PHONE: 006 03 6204 5627  
FAX: 006 03 6204 5628  
EMAIL: [CSCPRESS@CSCJOURNALS.ORG](mailto:CSCPRESS@CSCJOURNALS.ORG)