

ISSN 1913-9004 (Print)  
ISSN 1913-9012 (Online)

# International Business Research

Vol. 5, No. 1 January 2012



CANADIAN CENTER OF SCIENCE AND EDUCATION

# Editorial Board

Ahmad Ahmad Zamil, Jordan  
Ahsan Raza Jaffari Jaffari, Pakistan  
Alina Cristina Nuță, Romania  
Alireza Miremadi, Iran  
Amaresh Das, USA  
Amran Awang, Malaysia  
Ananda Jeeva, Australia  
Anca Gabriela Turtureanu, Romania  
Anthony Rezitis, Greece  
Antônio André Cunha Callao, Brazil  
Aurelija Burinskiene, Lithuania  
Azian Madun, Malaysia  
Benjamin J. Inyang, Nigeria  
Biqing Huang, U.S.A  
Camelia Micu, U.S.A  
Carlos Machado-Santos, Portugal  
Carmen Gabriela Sirbu, Romania  
Celina Maria Olszak, Poland  
Cindy Xu, Canada  
Cristian Marian Barbu, Romania  
Eva Bolfíková, Slovak Republic  
Ewa Wanda Ziemba, Poland  
Fadi Alkaraan, UK  
Florin Ionita, Romania  
Foued Hamouda, Tunisia  
Gandolfo Dominici, Italy  
Georgeta Dragomir, Romania  
Giovanna Michelon, Italy  
Hanoku Bathula, New Zealand  
Hernan 'Banjo' Roxas, Australia  
Ikechukwu Anthony Acha, Nigeria  
Ioana Horea, Romania  
Ionela-Corina Chersan, Romania  
Irina Kharitonova, Russia  
Janusz Wielki, Poland  
Javier Aguilera-Caracuel, Spain  
José Antonio Miranda, Spain  
Josir Gomes Simeone, Brazil  
Laura DANILESCU, Romania  
Manuela Rozalia Gabor, Romania  
Marcelino José Jorge, Brazil  
Maria-Madela, Romania  
Marian-Lucian Achim, Romania  
Marwan Mustafa Shammot, Saudi Arabia  
Michaela Schaffhauser-Linzatti, Austria  
Mihail Diakomihalis, Greece  
MIRELA-ELENA MAZILU, Romania  
Modar Abdullatif, Jordan  
Mohd Faiz Hilmi, Malaysia  
Monica Paula Ratiu, Romania  
Nathalie Janson, France  
Nguyen Huu Le, Finland  
Nimalathan Balasundaram, Sri Lanka  
Philippe Van Cauwenberge, Belgium  
Rafael Bravo, Spain  
Rafael Hernandez Barros, Spain  
Rafiuddin Ahmed, Australia  
Raphaël Dornier, France  
Roberto Bergami, Australia  
Rodica Pripoaie, Romania  
Romana Korez Vide, Slovenia  
Samuel Allen Broyles, USA  
Sazali Abdul Wahab, Malaysia  
Sorinel Căpușeanu, Romania  
Sriyalatha Kumarasinghe, New Zealand  
Tajul Ariffin Masron, Malaysia  
Tamizhjothi Kailasam, India  
Thanos Verousis, UK  
Thierry Delécolle, France  
Tolba Ahmed, Egypt  
Tulus Tambunan, Indonesia  
Valdir de Jesus Lameira, Portugal  
Valerija Botrić, Croatia  
Vasileios Bill Kallinterakis, UK  
Zaid Ahmad Ansari, Saudi Arabia

## Contents

An Investigation on the Relationship between Service Quality and Customer Satisfaction: In the Case of CCG CO. <i>Ali Dehghan, Bahman Zenouzi &amp; Amir Albadvi</i>	3
Empirical Relationship between Foreign Direct Investment and Economic Output in South Asian Countries: A Study on Bangladesh, Pakistan and India <i>Anowar Hossain &amp; Mohammad Kamal Hossain</i>	9
Decomposed Approach of Market Orientation and Marketing Mix Capability: Research on Their Relationships with Firm Performance in the Korean Context <i>Sohyoun Shin</i>	22
Perceived Performance in the French Tour Operating Industry <i>Raphaël Dornier &amp; Noureddine Selmi</i>	34
Examining the Antecedents to Inter-partner Credible Threat in the International Joint Ventures <i>Lan-Ying Huang, Ying-Jiun Hsieh &amp; Pei-Ling Hsiao</i>	49
Defining the Concepts of Technology and Technology Transfer: A Literature Analysis <i>Sazali Abdul Wahab, Raduan Che Rose &amp; Suzana Idayu Wati Osman</i>	61
Importance of the Motivational Factors Affecting Employees Satisfaction <i>Gülten YURTSEVEN &amp; Ali HALICI</i>	72
Determinants of Enterprise Risk Management (ERM): A Proposed Framework for Malaysian Public Listed Companies <i>Ahmad Shukri YAZID, Ahmad Rizal RAZALI &amp; Mohd Rasid HUSSIN</i>	80
The Influence of HR, IT, and Market Knowledge Competencies on the Performance of HR Managers in Food Exporting Companies in Thailand <i>Sarunya Lertputtarak</i>	87
How do Service Encounters Impact on Relationship Benefits <i>Chao-Hung Wang &amp; Li-Chang Hsu</i>	98
Human Resource Development Climate as a Predictor of Citizenship Behaviour and Voluntary Turnover Intentions in the Banking Sector <i>Akinyemi Benjamin</i>	110
The Dynamic Effect of Globalization on Unemployment Rate in Iran: A Co-integration Analysis <i>Ali A. Naji Meidani &amp; Maryam Zabihi</i>	120
Ownership-Control Discrepancy and Dividend Policy: Evidence from Tunisia <i>Moncef Guizani &amp; Mondher Kouki</i>	127
Is Amman Stock Exchange an Efficient Market? <i>Sameer Elbarghouthi, Mohammed Yassin &amp; Amer Qasim</i>	140
Factors Affecting Capacity Utilization Decisions in Nigeria: A Time Series Analysis <i>Mojekwu, J. N. &amp; Iwuji, I. I.</i>	157
Internationalization and Capital Structure of Taiwan Electronic Corporations <i>Feng-Li Lin &amp; Jui-Ying Hung</i>	164

## Contents

The Relationship between Ownership Structure and Firm Performance: An Empirical Analysis over Istanbul Stock Exchange (ISE) Listed Companies <i>Süleyman Serdar Karaca &amp; İbrahim Halil Ekşi</i>	172
Examination of the Relationship between Financial Market Liberalisation and the Failures of Small and Medium Sized Enterprises in Nigeria <i>Obokoh, Lawrence Ogechukwu &amp; Asaolu, Taiwo O.</i>	182
A New Introduction to Supply Chains and Supply Chain Management: Definitions and Theories perspective <i>Assey Mbang Janvier-James</i>	194
An Empirical Examination of the Relationship between Ownership Structure and the Performance of Firms in Nigeria <i>UWUIGBE, UWALOMWA &amp; OLUSANMI, OLAMIDE</i>	208
Corporate Governance and Earnings Management: Jordanian Evidence <i>Suzan Abed, Ali Al-Attar &amp; Mishiel Suwaidan</i>	216

# An Investigation on the Relationship between Service Quality and Customer Satisfaction: In the Case of CCG CO.

Ali Dehghan

Department of Engineering Management, Eastern Michigan University

Former Master's student of Tarbiat Modares University

2951 International Dr No 2020C, Ypsilanti, MI, USA 48197

Tel: 1-734-277-4914 E-mail: ali.dehghan3@gmail.com

Bahman Zenouzi

Universite Montesquieu Bordeaux IV

CCG CO, Customer Centric Group

No 27, Zohre, Park Way, Chamran, Tehran, Iran

Tel: 98-212-266-5086 E-mail: Chief@ccgccc.at

Amir Albadvi

Professor of IS/IT

Industrial Engineering Division, Faculty of Engineering

Tarbiat Modares University, Tehran, Iran

Tel: 98-218-288-3395 E-mail: albadvi@modares.ac.ir

Received: August 4, 2011

Accepted: October 7, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p3

URL: <http://dx.doi.org/10.5539/ibr.v5n1p3>

## Abstract

Nowadays almost all organizations are realizing the significance of customer centered philosophies. One of the key challenges they are facing is how to manage service quality, which holds a great importance to customer satisfaction. The purpose of this investigation has been to gain a better understanding those of the service quality dimensions that affect customer satisfaction from customers' perspective. Some service quality dimensions have been tested in CCG CO operations and its relationship with customers in order to explore the relationship between service quality and customer satisfaction. A qualitative approach has been considered for the research. The empirical data has been gathered through in dept interviews. Data analysis has been done in accordance with the research questions and literature review. Finally, conclusions have been derived by answering the research questions. Some of the services qualities dimensions have been addressed in this investigation include reliability, responsiveness, tangibles, empathy, and assurance, and logistic/technical support, fulfillment, pricing and courtesy. SERVQUAL as the most often used approach for, measuring service quality has been to compare customers' expectations before a service encounter and their perceptions of the actual service delivered. The results imply that the quality performance of dimensions have a strong impact on customer satisfaction. Also, price, speed of installation and speed of delivery have been found as new dimensions.

**Keywords:** Service quality, SERVQUAL, Customer satisfaction

## 1. Introduction

Customer Centric Group Companies has got partners in supplying whole range of HV Substation products and has organized engineering and expert groups in a way to be able to provide full range of Generation, T&D and Utilization skills and all related service. This article examines service quality in a company that is experiencing changes in its competitive environment because of restructuring and deregulation in the industry. It also illustrates a

recently developed service quality model and methodology for the measurement and analysis of service quality, and identifies specific improvements that must be made to the design and delivery of service to meet and exceed customer expectations. The received wisdom within the electrical substation industry was that the business is totally driven by price and availability at a given time. This article analyses the quality of service offered by CCG CO from both the firm and the customer perspectives to see if this is still the case. It also describes the steps that the company needs to implement in the near future.

CCG CO is the leading electrical substation (PASS) contractors in Iran with additional operations. Its primary customers include other contractors companies in Iran. CCG CO customers believe the price of these offered services are too high and usually this company think about its immediate margin not customers benefits ,also the speed of service delivery is not satisfactory, conversely CCG CO thinks that customers expectations are not logical, so in both side, service provider (CCG CO) & customers got dissatisfied .These are great discrepancies between perceived performance and expectation from customers points of view (perceived performance is less than expectation) that make them dissatisfied.

It is important that the CCG CO provide customers with high quality services to survive in this highly competitive electrical industry business. Regarding this importance, CCG CO first need to understand the attributes that customers use to judge about service quality and monitor and enhance the service performance. There are numerous studies that identified the key service quality dimensions in other businesses, but relatively little literature has investigated service quality attributes in the electrical industry in Iran and the relationship with customer satisfaction (Jun & Cai 2001).

Managers in the service sector are under increasing pressure to demonstrate that their services are customer-focused, customer-centered and that continuous performance improvement is being delivered. Given the financial and resource constraints under which service organizations must manage it is essential that customer expectations are properly understood and measured and that, from the customers ' perspective, any gaps in service quality are identified. This information then assists a manager in identifying cost-effective ways of closing service quality gaps and of prioritizing which gaps to focus on a critical decision given scarce resources.

While there have been efforts to study service quality, there has been no general agreement on the measurement of the concept. The majority of the work to date has attempted to use the SERVQUAL (Parasuraman et al. , 1985; 1988) methodology in an effort to measure service quality (e.g. Brooks et al., 1999; Chaston, 1994; Edvardsson et al., 1997; Lings and Brooks, 1998; Reynoso and Moore, 1995; Young and Varble, 1997; Sahney et al. , 2004). Taking in to account these developments, it is evident that service researchers need to pay more attention to consumer evaluations of technology-based services (Parasuraman and Grewal, 2000). One of the aims of this study involves the service quality dimensions in CCG CO operations and how they affect customer satisfaction. The other aim of this study is to discover how the relative importance of the service quality dimensions can be described for CCG CO in relation with the satisfaction.

## **2. Customer Satisfaction**

Customer satisfaction is a critical issue in the success of any business system, traditional or online (Ho & Wu 1999). In a turbulent commerce environment, in order to sustain the growth and market share, companies need to understand how to satisfy customers, since customer satisfaction is critical for establishing long-term client relationships (Patterson et al. 1997). It is evidenced by the fact that over the last five years, customer satisfaction surveys have become common in many financial institutions. Thus, a fundamental understanding of factors impacting customer satisfaction is of great importance to commerce. Furthermore, the need for research in customer satisfaction has been accentuated by the increasing demand for the long-term profitability of dotcom companies and traditional companies (Pather, Erwin & Remenyi, 2002). Customer satisfaction can be obtained when the actual performance exceeds the expectations of those being served (Dehghan & Shahin, 2011). Relationship between Satisfaction and Service Quality Service quality is the key to measure user satisfaction (Pitt et. al., 1995).

## **3. Service Quality**

Service quality is a concept that has aroused considerable interest and debate in the research literature because of the difficulties in both defining it and measuring it with no overall consensus emerging on either (Wisniewski, 2001). There are a number of different "definitions" as to what is meant by service quality. One that is commonly used defines service quality as the extent to which a service meets customers' needs or expectations (Lewis and Mitchell, 1990; Dotchin and Oakland, 1994a; Asubonteng et al., 1996; Wisniewski and Donnelly, 1996). Service quality can thus be defined as the difference between customer expectations of service and perceived service. If expectations are greater than performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs

(Parasuraman et al., 1985; Lewis and Mitchell, 1990). Some important definitions of service quality are coming as following:

Parasuraman et al., (1985, 1988): Service quality is determined by the differences between customer's expectations of services provider's performance and their evaluation of the services they received. Asubonteng et al. (1996): Service quality can be defined as "the difference between customers' expectations for service performance prior to the service encounter and their perceptions of the service received".

Always there exists an important question: why should service quality be measured? Measurement allows for comparison before and after changes, for the location of quality related problems and for the establishment of clear standards for service delivery. Edvardsen et al. (1994) state that, in their experience, the starting point in developing quality in services is analysis and measurement. SERVQUAL as the most often used approach for, measuring service quality has been to compare customers' expectations before a service encounter and their perceptions of the actual service delivered (Gronroos, 1982; Lewis and Booms, 1983; Parasuraman et al., 1985).

Just over a decade ago, Parasuraman et al. (1985) initiated a research stream that many consider to be the most comprehensive investigation into service quality. Briefly, Parasuraman et al. (1985) proposed service quality to be a function of pre-purchase customer expectations, perceived process quality, and perceived output quality. They defined service quality as the gap between customers' expectations of service and their perceptions of the service experience, ultimately deriving the now-standard SERVQUAL multiple-item survey instrument (Parasuraman et al., 1988).

The SERVQUAL instrument has been the predominant method used to measure consumers' perceptions of service quality. It has five generic dimensions or factors and is stated as follows (van Iwaarden et al., 2003):

- Tangibles: Physical facilities, equipment and appearance of personnel.
- Reliability: Ability to perform the promised service dependably and accurately.
- Responsiveness: Willingness to help customers and provide prompt service.
- Assurance: (Including competence, courtesy, credibility and security). Knowledge and courtesy of employees and their ability to inspire trust and confidence.
- Empathy: (Including access, communication, understanding the customer). Caring and individualized attention that the firm provides to its customers.

#### 4. Discussion

A study was undertaken in 2005 to develop a clear understanding of the company's service system and the status of its service quality from a customer's viewpoint. We used the service quality model and methodology developed by Parasuraman, Zeithaml and Arash Shahin. The conceptual is describing Relationship between service quality and customer satisfaction derived from the studied done by Zethaml et al. (2000; 2002). Five Service quality dimensions have been selected form the studied done by Van Iwaarden et al. (2003).

(Insert Figure 1 Here)

Interviews based on 5 important aspects of service quality (Tangibles, Reliability, Responsiveness, Assurance and Empathy) were conducted with CCG CO president and a number of its customers. These interviews provided the necessary background information on the service system. The next step involved an analysis and listing of the customer's expectations and measuring the gap between perceived performance and customer's expectations. A listing of the current quality attributes for CCG CO was made immediately after the initial interview with 2 customers and CCG CO's president. All the interviews were conducted based on 5 dimensions of service quality and finally the gap between perceived performance and expectation of side, service provider and customers, were measured in discrepancy diagram.

(Insert Figure 2 Here)

#### 5. Conclusion

The findings imply that the Assurance issue is the utmost concern by CCG customers .Based on the literature review and Assurance dimension is categorized by 4 categories: Competent, Courtesy, Security of CCG services and Credibility ,So CCG CO has to hire much more expert staffs to do more projects in order to get better experiences, also those employees should have right attitude to convince the customers and totally make the CCG CO more competent in order to prevail its competitors ,otherwise customers will switch to other firms.

The findings reveal because of the name of service provider, Customer Centric Group CO, customers can expect whatever they request or want logically or illogically, so a big gap occurred between the service provider's

perception and customer's expectation in the case of responsiveness of CCG CO (Service provider), therefore customers must adjust their expectations and service provider should modify its perception. The findings also indicate that quick response is one of the key drivers of customer satisfaction or dissatisfaction, which consists with the prior study. More importantly, the findings also show that some customers expect and need personalized services from the CCG CO. Personalized services could build good relationship with customers, simultaneously gain trust and loyal customers.

In the case of Reliability, the findings reveal that the CCG CO should try to speed up installation time by using much more expert engineers and technicians, also based on causing more trust and satisfaction in customers and create confidential atmosphere, the products have to be delivered faster and customers must pay the costs on time and without delay, because CCG CO is buying all the equipments cash and sell it by related services in payment, otherwise CCG CO will not be able to do its duties and finally both side will be dissatisfied.

The most effective factor among service quality dimensions that has not been found in theory, was Pricing. The findings of this study imply that reasonable price and cost of the services is the most important factors in terms of customer satisfaction, all the customers believe the service costs are too much expensive, So CCG must decrease the costs and prices in order to be survived in this competitive and complex market otherwise it will lose this market thoroughly. Three more dimensions that have not been identified in theory were found in this research that should be mentioned as service quality aspects: Technology Update, Logistical or Technical Equipment and Personalization or Customization, that should be mentioned in increment of CCG CO's service quality and generally for all Service Providers, in order to retain the customers and create more satisfaction. A total of nine service quality dimensions were identified and found by this study:

- Tangibles;
- Responsiveness;
- Reliability;
- Assurance
- Empathy;
- Pricing;
- Technology Update;
- Logistical or Technical Equipment;
- Personalization and customization.

Among them, fist five dimensions are consistent with the variables that mentioned in the frame of reference. We tested them as the core service quality dimensions of CCG CO. From qualitative empirical data, we identified pricing as another important quality criterion in CCG CO services Moreover.

The last dimensions are the new finding in this study. In addition, the first 5 dimensions share the same meaning with the service quality determinants derived within the context of traditional services industries by prior research.

All these nine dimensions are significant criteria and factors to judge services that are provided by CCG CO, simultaneously to identify and measure customers' experiences and preference. However, considering limited resources of CCG CO, Pricing and first five key dimensions should be more significant and focused by the CCG CO. All of the nine dimensions tend to have strong impacts on either customers' satisfaction or dissatisfaction, depending on the quality performance of those dimensions.

## References

- Anderson, E. W., & Sullivan, M. W. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing science Journal*, 12(2). <http://dx.doi.org/10.1287/mksc.12.2.125>
- Asubonteng, P., McCleary, K. J., & Swan, J. E. (1996). SERVQUAL revisited: a critical review of service quality, *The Journal of Services Marketing*, 10(6), 62-81. <http://dx.doi.org/10.1108/08876049610148602>
- Awad, E. M. (2000). *The Structure of E-Commerce in the Banking Industry: An Empirical Investigation*. S1GCPR 2000 Evanston Illinois USA.
- Bahia, K., & Nantel, J. (2000). Areliableand valid measurement scale for the perceived service quality of banks. *International Journal of Bank Marketing*, 18(2), 84-91. <http://dx.doi.org/10.1108/02652320010322994>
- Bellini, N. (2002). Perceived quality in the delivery of Business support services: a Conceptual Framework (With practical Implication), European seminar on support services for micro small and sole proprietor's businesses.



- Bitner, M. J., Booms, B. H., & Tetreault, M. S. (1990). The Service Encounter: Diagnosing Favorable and Unfavorable Incidents. *Journal of Marketing*, 54(1). <http://dx.doi.org/10.2307/1252174>
- Boulding, W., Kalra, A., Staelin, R., & Zeithaml, V. A. (1993). A Dynamic process model of service Quality: from expectations to behavioral intentions. *Journal of Marketing Research*, 30(1), 7-27. <http://dx.doi.org/10.2307/3172510>
- Cadotte, E. R., Woodruff, R. B., & Jenkins, R. L. (1987). Expectations and norms in models of consumer satisfaction. *Journal of Marketing Research*, 24(3), 305-314. <http://dx.doi.org/10.2307/3151641>
- Caruana, A., & Malta, M. (2002). Service loyalty-The effects of service quality and the mediating role of customer satisfaction. *European Journal of Marketing*, 36(7/8), 811-828. <http://dx.doi.org/10.1108/03090560210430818>
- Churchill, G. A., & Surprenant, C. (1992). Investigation into the Determinant of Customer Satisfaction. *Journal of Marketing Research*, 19, 491-504. <http://dx.doi.org/10.2307/3151722>
- Churchill, G. A., & Surprenant, C. (1992). Research Strategy in Studies of Information Systems. *MIS Quarterly*, 1989.33-50. <http://dx.doi.org/10.2307/3151722>.
- Cooper, D. R., & Schindler, P. S. (2003). *Business Research Methods 8th edition*. McGraw-Hill Companies.
- Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative and Mixed Methods Approach*. (2nd ed.). Sage Publication, Inc.
- Cronin, J. J., & Taylor, S. A. (1992). Measuring Service Quality: A Reexamination and Extension. *Journal of Marketing*, 56(7), 55-68. <http://dx.doi.org/10.2307/1252296>
- Daniel, E. (1999). Provision of electronic banking in the UK and Ireland. *International Journal of Bank Marketing*, 17(5), 211-32. <http://dx.doi.org/10.1108/02652329910258934>
- Dehghan, A., & Shahin, A. (2011). Customer Loyalty Assessment-A Case Study in MADDIRAN, the Distributor of LG Electronics in Iran. *Business Management and Strategy*, 2(1).
- Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1994). Alternative Scales for Measuring Service Quality: A Comparative Assessment Based on Psychometric and Diagnostic Criteria. *Journal of Retailing*, 70(3), 201-308. [http://dx.doi.org/10.1016/0022-4359\(94\)90032-9](http://dx.doi.org/10.1016/0022-4359(94)90032-9)
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service quality. *Journal of Retailing*, (1).
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(3). <http://dx.doi.org/10.2307/1251430>
- Pitt, L. F., Watson, R. T., & Kavan, C. B. (1995). Service Quality: A measure of information systems effectiveness. *MIS Quarterly*, June. <http://dx.doi.org/10.2307/249687>
- Saunders, M., Lewis, P., & Thornhill, A. (2000). *Research Methods for Business Students Second Edition*. UK: Financial Times, Prentice Hall.
- Spreng, R. A., Mackenzie, S. B., & Olshavky, R. W. (1996). A reexamination of the determinants of customer satisfaction. *Journal of Marketing*, 60(3), 15-33. <http://dx.doi.org/10.2307/1251839>
- Shahin, A. (2004). SERVQUAL and Model of Service Quality Gaps: A Framework for Determining and Prioritizing Critical Factors in Delivering Quality Services. *International conference on quality management*, Docs/0077.

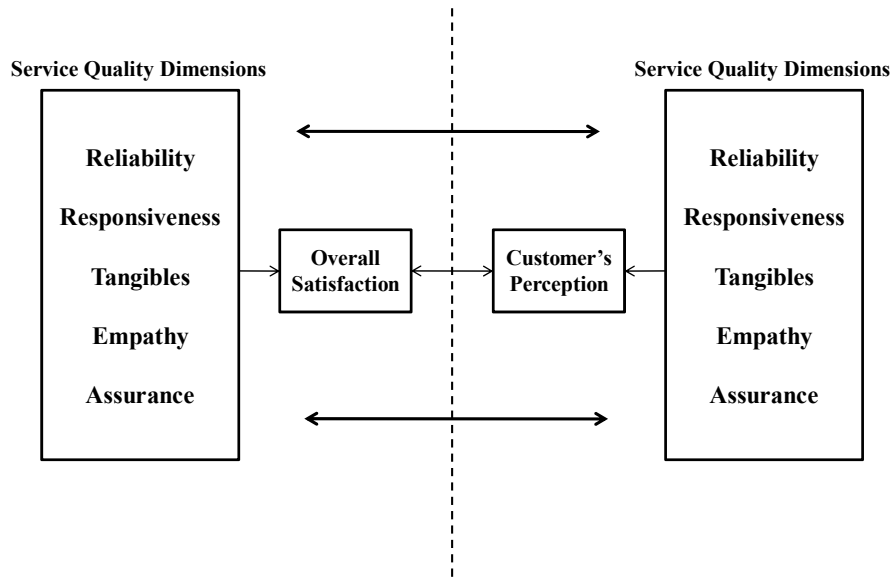


Figure 1. Conceptual Framework

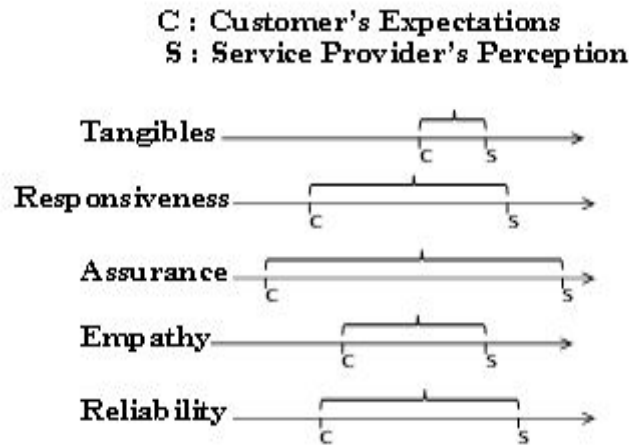


Figure 2. Gap Diagram

# Empirical Relationship between Foreign Direct Investment and Economic Output in South Asian Countries: A Study on Bangladesh, Pakistan and India

Anowar Hossain

Masters Scholar, Department of Economics and Finance

Brunel University, United Kingdom

29 Keble Terrace, London E7 0QP

Tel: 44-742-761-8395 E-mail: omi49000@yahoo.co.uk

Mohammad Kamal Hossain

Assistant Professor, Department of Accounting, National University

Gazipur, Bangladesh

Tel: 44-788-275-8527 E-mail: karunu2003@yahoo.com

Received: September 15, 2011

Accepted: November 9, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p9

URL: <http://dx.doi.org/10.5539/ibr.v5n1p9>

## Abstract

This paper examines co-integration and the causal relationship between Foreign Direct Investment (FDI) and the economic output or Gross Domestic Product (GDP) in the both short and long run of Bangladesh, Pakistan and India over the period of 1972-2008. Three econometric models, viz. Augmented Dickey-Fuller (ADF) test, Engle-Granger two-step co-integration test, Vector error correction mechanism (VECM) have been used. This study also used Granger Causality (GC) to find the directional relationship between FDI and GDP. The results suggest that there is no co-integration between FDI and GDP in the both long and short run in Bangladesh and India. However, we find the co-integration between them in the both short and long run in Pakistan. Conversely, GC results suggest that there is no causality relationship between GDP and FDI for Bangladesh and one way or unidirectional relationship found for Pakistan and India, which means FDI caused economic output in Pakistan.

**Keywords:** Foreign Direct Investment, Gross Domestic Product, Economic Output Augmented Dickey-Fuller, Stationarity, Co-integration, Vector Error Correction Mechanism (VECM), Engle-Granger causality

## 1. Introduction

Foreign Direct Investment (FDI) is generally considered to be an instrument of cash and non-cash inflow into the host countries from overseas. It plays a vital role to make substantial contribution in the economic growth of the developing countries. The main role of FDI in the economic growth is that it creates more benefits for the host countries rather than just full filling the short-term capital deficiency problem, (Borensztein et al. 1998). It is not only about investment, but also about transfer of technology, training, skills and other relevant materials. According to UNCTAD (2008), foreign direct investment has potentially involved to make employment, raise productivity, transfer technology and skills, enhance export and improve the economic conditions of developing countries. Moreover, the spill over effect of multinational companies (MNEs) provides high training and labour management that leads to economic benefits for recipient countries (Borensztein et al. 1998). The training to host country's suppliers by foreigners may increase high standard production and management standards (ibid). As a result, FDI is included in the central economic policies of the developing countries. The significance of FDI is undeniable because of an inability to make internal savings for local investments. Moreover, it is one of the effective ways for developing countries to have a good relationship with the rest of the world.

### 1.1 Overview of Recent FDI Inflows to South Asian Countries

The inflow of Foreign Direct Investment (FDI) increased rapidly in developing countries particularly in south Asia in the mid of 1980s. The trend of FDI is different for each of the south Asian countries depends on their respective

government's economic policy. There was an inflow of \$0.83 billion in FDI during 1980-84 and the growth was measured 5.34 percent annually (Mortaza, et al 2007). According to ADB (2007) FDI inflows in the south Asia was about amounted \$24.3 billion represented 132.9 percent higher than the year of 2005. According to Mortaza, et al (2007), India and Pakistan is the most favourable destination for FDI followed by Srilanka and Bangladesh among the south Asian countries.

#### 1.1.1 India

India planned and henceforth implemented a socialist economy after the birth of it in 1947. System on export and import were very strict, and efficiency was a problem in each sector (ADB, 2007). In the late 1980s, the government eased up the economic policy, taken out the boundaries on FDI and consequently they achieved high economic growth among south Asia, (ibid). In 1991, Indian government announced a new industrial policy with a view to expand opportunities to the overseas investors to invest generously in India without any condition. Local companies were permitted to compete with foreign industries and they turned a closed economy into an open economy, (ADB, 2007). In recent years, India has become the highest FDI recipient country among south Asian countries due to their great service sector (Mortaza, et al 2007). In 2006, they received about \$19.4 billion FDI, which was 80 percent of total FDI inflows to the region (ADB, 2007). According to Table 1, the annual FDI inflow amount was \$17.79 million in 1972 that rose to \$79.16 million in 1980. After 1991, FDI inflow gradually decreased for few years and then again increased until 2008.

Insert Table 1 Here

#### 1.1.2 Pakistan

In 1947 when Pakistan gained independence, the average economic growth rate was higher than that of the world economy during the period. During the 1960s, Pakistan was thought to be a model of economic development around the world, and achieved much admires for its economic progression. Afterwards, economic mismanagement and imprudent economic policies caused a large volume of public debt which led to slower growth in the 1990s (Wikipedia, nd). In the last two decades, Pakistan Government realised the necessity of changing to their economic policy to compete globally. In the early of 1980s, government adopted market based economic policy and kept it until 1988. After that, government became very generous to the FDI by providing fair trade policy, fiscal incentives and tariff facilities to the foreign investors to make Pakistan the most attractive investment region (Aqueel and Nishat 2005). Since the mid of 1990s, FDI inflow increased significantly in Pakistan in the sectors of agriculture, telecommunications and energy. According to Table 1, Pakistan received higher FDI than other south Asian countries between the period of 1980 and 1994 followed by India and Bangladesh.

#### 1.1.3 Bangladesh

Bangladesh has been turning into the most generous FDI recipient country in south Asia despite having a number of impediments, such as poor infrastructure, scarcity of power supply, political instability, redapism of bureaucrat, poor law and order situation etc. However, cheapest labour cost, tax holiday facilities etc. have been able to make the country a centre of attention of the overseas investors. Until the 1980s, Bangladesh was sceptical of the intentions of FDI and considered it as tools for promoting foreign interest. FDI inflows have risen during the period 1980-1990, and it went up about \$1090 million in 2008, (UNCTAD 2008). The Board of Investments of Bangladesh has been playing a significant role to make Bangladesh the most favourable FDI region by offering convenient facilities and promotion of investments to the overseas investors. According to UNCTAD (2008), the sharpest rise in FDI inflows occurred during the period of 1995 -1997. In the fiscal year 1999-2000, Bangladesh became the most liberalized investment regime in the south Asian region (ibid, 2000).

#### *1.2 Aims and Objectives of the Study*

Over the last few years, the outstanding increase in FDI inflows in south Asian countries demands the analysis of the relationship between FDI and economic growth (Mortaza, et al 2007). That is why; policy makers have emphasised to determine the causal relationship between foreign direct investment (FDI) and economic output of the developing countries. Therefore, the purpose of this study is to examine the co-integration and causal relationship between FDI and GDP growth over the period of 1972-2008 among the selected south Asian countries.

The main objectives of this paper are to explore the following questions;

- What is the co-integration relationship between FDI and GDP in the both long and short run among three south Asian countries? And
- What is the direction of causality between FDI and GDP in those selected countries?

### 1.3 Hypothesis of the Study

The hypothesis of the study is described as follows:

$H_0: \delta = 0$  A Unit Root (Non-Stationary) = I (1)

$H_A: \delta \neq 0$  No Unit Root (Stationary) = I (0)

Where,  $H_0$  defines null hypothesis and  $H_A$  defines the alternative hypothesis.

If the t-statistics value is negatively less than the critical values at 1%, 5% and 10% significance level, the null hypothesis can be rejected i.e. the series is stationary

### 1.4 Limitations of the Study

There are some considerable limitations identified of this study. These are as follows:

- Only two variables were used in this study so far. Therefore, the empirical relationship analysis was partial in the sense that if more number of variables were included, the study results would have been different.
- Only one model (Ordinary Least Square) was used to determine the co-integration relationship for both long and short run. There could have some impact on the result if other models used.
- All data was in 2000 US constant dollars in millions, however, exchange rate was not considered in this study.

## 2. Literature Review

The volume of FDI has been growing globally as double as the trade volume across the world (Meyer, 2003). The rapid growths of FDI inflows to the developing countries demands an analysis of the impact on economic output as the increase of FDI inflows makes huge impact on local economic growth and their productivity due to their extra facilities by getting better technologies and managerial skills. Therefore, the impact of FDI on economic output is vast.

There have been carried out a considerable number of studies on FDI and economic growth of various countries using different samples, methodologies and procedures. Most of the studies have found substantial positive causal relationship between FDI and economic growth with few exceptions where no significant impact suggested.

Rudra, et al. (2009) investigated the relationship between FDI and economic growth of five ASEAN over the period of 1970-2007 using co-integration and causality test in both individual and panel data level. Their result suggested that foreign direct investment and economic growth is co-integrated. They also estimated Granger causality with bi-directional causality between two series and explored there was a bi-directional Granger causality between GDP and economic growth for all countries except Malaysia. They stated that FDI is widely accepted as a vehicle for country's economic growth and it is most important in developing countries due to their inability to generate internal savings in response to their investment needs. The same result revealed in a study of Chakraborti and Basu, (2002) where they found from the co-integration test that FDI positively related with GDP that means they had long run relationship between two variables.

Mortaza, et al. (2007) carried out a study to scrutinize the relationship among FDI, trade liberalization and economic growth for five Asian countries over the period of 1980-2004 using panel data estimation. They explored a considerable positive relationship between FDI and economic growth. The study also examined the direction of causality among FDI, trade liberalization and economic growth using country specific data over the same period. They stated that FDI makes huge impact on local investment and trade liberalization along with FDI makes country's economic growth upward for Bangladesh and Pakistan. The same result suggested in a study of Li and Liu (2004) based on a panel data for 84 countries over the period of 1970-1999 using co-integration techniques where they found that FDI and human capital was directly responsible for promoting economic growth in developing countries.

Miankhel, et al. (2009) investigated time series data for six emerging countries of China, India, Mexico, Malaysia, Pakistan and Thailand over the period of 1970-2005 using vector error correction mechanism (VECM) to examine the relationship between export, FDI and GDP. Their result suggests that export drives the economic growth of Pakistan and FDI drives the economic growth of India. On the other hand, they find a short run relationship for Mexico and Chile but export affects FDI growth among Latin American countries in the long run. However, they explore bi-directional causality between GDP and FDI in Thailand while no causal relationship in Malaysia among East Asian countries.

Sridharan, et al. (2009), on the other hand, examined the causal relationship between FDI and economic growth of the BRICS countries over the different periods of selected countries based on the Johannes co-integration test and vector error correction model (VECM). They found co-integration relationship among the selected countries. However, the result, based on vector correction mechanism, suggested there were bi-directional causality between FDI and GDP for

Brazil, Russia and South Africa and one way Granger relationship that FDI caused with economic growth for India and China.

Seetanah and Khdaroo (2005) examined the impact of FDI on economic growth for a panel of 39 Sub-Saharan African countries for the period of 1980-2000 using Cobb Douglas production function. The study found that FDI is an essential part of economic performance in Sub-Saharan African countries. Moreover, the positive link is also confirmed by using GMM panel estimation. However, the involvement of FDI is less observed as compare to other types of investment.

There are other studies carried out by Lan (2006), Apergis, et al. (2007) and Aqeel, et al. (2005) based on the different periods of different countries using different techniques. Their studies suggest a significant positive impact of FDI on economic growth in Vietnam and the relationship between FDI and export is complimentary (Lan, 2006). Similarly, FDI has a significant relationship with economic growth that characterised by high level of income (Apergis, et al., 2007). On the other hand, a significant impact of FDI on GDP, exchange rate, wages and trade is found in Pakistan in both short run and long run (Aqeel, et al., 2005).

Shimul, et al. (2009), Athukorala(2003) and Sekmen (2007), however, suggested different findings in their studies rather than direct relationship between FDI and GDP. Shimul, et al. (2009) examined the long run relationship between FDI and GDP of Bangladesh based on the time series data over the period of 1973-2007, where they used two modern time series econometric approaches viz. Auto Regressive Distributed Lag (ARDL) model and Engle-Granger two step procedure. They showed in the study that FDI and GDP was not co-integrated, FDI and openness was not Granger causing GDP in both the short run and the long run. Their results suggested that FDI could only be considered to be a contributing factor to the economic development.

According to the study of Athukorala(2003) carried out on Srilanka over the period of 1959-2002 showed that FDI inflows did not influence independently on economic growth and the direction of causation was not towards from FDI to GDP growth but GDP has been caused to FDI. Political instability and disturbance, poor law and order situation and lack of infrastructural facilities were the main hindrance of less impact of FDI on economy, the study claimed. Sekmen (2007) discovered similar findings on Turkey's tourism sector over the period of 1980-2005 where the study indicated that there was no co-integration relationship among the variables. The Granger causality result suggested that there was unidirectional relationship between FDI and GDP. However, a bi-directional relationship exists between GDP and exchange rate, FDI to exchange rate.

Ilhan & Huseyin (2007) investigated the impact of FDI on economic growth of Turkey and Pakistan over the period of 1975-2004 using Engle-Granger co-integration and Granger causality techniques. They found that FDI caused increment in GDP in the case of Pakistan; however, there was strong evidence of a bi-directional causality between FDI and GDP of Turkey. The same findings confirmed in another study by using Engle-Granger method carried out by Balamurali and Bogahawtte (2004) on Srilanka based on the period of 1977-2003.

### 3. Methodology of the Study

The study examines co-integration relationship between FDI and GDP in both the short and long run of three southern Asian countries viz. Bangladesh, India and Pakistan. Time series data was collected of the three countries for the period of 1972-2008. The study included two main variables such as GDP (dependent variable) and FDI (independent variable) of selected countries; however, their logarithm form (LGDP and LFDI) has been used as well. Various statistical tools have been used such as standard deviation, regression, t-statistics, F-statistics, p value, R squared etc. to analyse data.

Three econometric model viz. Augmented Dickey-Fuller (ADF) test, Engle-Granger co-integration test and Granger causality mechanism have been used to establish co-integration and causal relationship between FDI and GDP.

#### 3.1 Augmented Dickey-Fuller (ADF) test

Augmented Dickey-Fuller test is required to check the order of integration through unit root (white noise error or random walk) test. The test consists of the following two regressions:

$$y_t = \alpha + x_t\beta + \varepsilon_t \quad (1)$$

Where  $x$  and  $y$  are variables and  $\varepsilon_t$  is the error term. The test is performed under null of non-stationarity.

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \alpha \sum_{i=1}^m \Delta Y_{t-i} + \varepsilon_t \quad (2)$$

Where,  $Y_t$  indicates variable of interest=(GDP and FDI),  $\Delta$  is the difference operator,  $L$ =number of lags,  $t$ = time subscript, and  $\varepsilon_t$  is a white noise error term, constant variance  $\{\beta_1, \beta_2, \delta, \alpha, 1 \dots \alpha 2\}$  is a set of parameters to be estimated and  $\Delta Y_{t-1} = Y_{t-1} - Y_{t-2}$  etc. If the t-statistics value is negatively less than the critical values at 1%, 5% and 10% significance level, the null hypothesis can be rejected i.e. the series is stationary.

### 3.2 Engle-Granger Co-integration Test

Engle-Granger two-step procedure is used to investigate long run and short run equilibrium relationships between the FDI and GDP. This process comprises following two equations.

$$LGDP = \alpha + \delta LFDI_t + \varepsilon_t \quad (3)$$

(for long run relationship test)

Here we collected residual value ( $\varepsilon_t$ ) from the above equation (3), then test  $\varepsilon_t$  to identify the integrated order by usual stationarity test. If  $\varepsilon_t$  is less integrated order than the integrated order of linear combination of the variables of I (1), the variables are co-integrated i.e there exist a long run relationship.

$$\Delta LGDP_t = c + \sum_{i=1}^p \delta_i \Delta LFDI_{t-i} + \mu_t ECM_{t-1} + \varepsilon_t \quad (4)$$

(for short run relationship test)

Where, C is a constant coefficient,  $\Delta LFDI_{t-i}$  is a first difference of LFDI,  $\Delta LGDP_{t-i}$  is a first difference of LGDP and ECM is an Error Correction Mechanism term.

The  $ECM_{t-1}$  (saved as 'Res') is the one period lagged value of the estimated error of the co-integrating regression based on Ordinary Least Square (OLS) estimation used to reconcile between short run and long run.

### 3.3 Granger Causality Test (Granger, 1969)

Granger causality test with three legs is carried out to determine causality relationship between two variables viz. DLGDP, DLFDI for each country. According to this approach, assume y is a variable indicates economic growth caused by another variable x (foreign direct investment), and y can be assumed to be better from past values of y and x than from past values of y alone. The hypotheses are tested by using VAR model with following equations:

$$LGDP = \sum_{i=1}^n \alpha_i LFDI_{t-i} + \sum_{j=1}^n \beta_j LGDP_{t-j} + \varepsilon_{1t} \quad (5)$$

$$LFDI = \sum_{i=1}^n \lambda_i LFDI_{t-i} + \sum_{j=1}^n \beta_j LGDP_{t-j} + \varepsilon_{2t} \quad (6)$$

Where LGDP and LFDI denote the logarithm form of economic growth and foreign direct investment respectively. These are assumed that distribution of  $\varepsilon_{1t}$  and  $\varepsilon_{2t}$  are uncorrelated. Equation (5) states that current LGDP is related to past values of itself as well as that of LFDI and equation (6) explains a similar behaviour for LFDI. From the equations, (5) and (6) we may get different kinds of hypothesis based on OLS coefficient estimates about the relationship between LFDI and LGDP are as follows:

·Unidirectional Granger causality from LFDI to LGDP Thus  $\sum_{i=1}^m \alpha_i \neq 0$  and  $\sum_{j=1}^m \delta_j = 0$ . It may happen other way round as well.

·Bidirectional Causality Thus  $\sum_{i=1}^m \alpha_i \neq 0$  and  $\sum_{j=1}^m \delta_j \neq 0$

·Independence between LGDP and LFDI, in this case there is no Granger causality in any directions. Thus  $\sum_{i=1}^m \alpha_i = 0$  and  $\sum_{j=1}^m \delta_j = 0$ .

When F value is greater than the chosen level of significance then we reject the null hypothesis, we may call GDP cause FDI, or FDI cause GDP, (Mun et al., 2008).

## 4. Empirical Results

This section describes the causal relationship between GDP and FDI of Bangladesh, Pakistan and India respectively by using Augmented Dickey-Fuller (ADF) test, Engle-Granger co-integration test and Granger causality mechanism.

### 4.1 Augmented Dickey-Fuller (ADF) Test

Augmented Dickey Fuller test (ADF) is used for testing stationarity and non-stationarity of each variable. Two variables have been considered for each country viz. log of GDP (LGDP) and log of FDI (LFDI) for unit root test to examine the nature of the variables as I(0) or I(1). For the ADF test in Table 1 shows the existence of unit root in all the two different series consequences using the level form and first difference form of data in order to intercept and linear trend & intercept.

#### 4.1.1 Estimated Results of Bangladesh

ADF test indicates that, in the level form 'with intercept', ADF statistics value of series LGDP (-1.689513) is higher than the critical values at 1%(-3.626784), 5%(-2.945842) and 10%(-2.611531) significance levels, therefore null hypothesis (Ho) cannot be rejected. However, with trend & intercept gives the different result, where ADF test statistics value (-5.159441) is smaller than the critical values at 1% (-4.234972), 5%(-3.540328) and 10% (-3.202445) significance levels, which indicates that null hypothesis is rejected. This means that series of LGDP has a unit root problem in the level form 'with intercept'. Therefore, series is not stationary.

On the other hand, the ADF statistics values are smaller than the critical values at the same significance levels in the first difference of LGDP series under ADF test with intercept & trend and intercept. Therefore, null hypothesis ( $H_0$ ) is rejected for the series of LGDP.

Similarly, for the series of LFDI, ADF test statistics value with intercept (-1.649670) and with trend & intercept value (-2.274439) is greater than the critical values at 1%, 5% and 10% significance levels. Therefore, null hypothesis is not rejected and the series will remain insignificant in the level form. Alternatively, in the first difference of LFDI series, ADF test statistics value with intercept (-7.920652) and with trend & intercept value (-7.725281) both are smaller than the critical values at the same significance levels. This means that null hypothesis can be rejected and the series is stationary.

Insert Table 2 Here

#### 4.1.2 Estimated Results for Pakistan

As with Bangladesh, the results for Pakistan illustrate that, ADF statistics values of series LGDP in the level form with intercept and trend & intercept (values are -0.389534 and -1.919313) are greater than the critical values at 1%, 5% and 10% significance levels. Therefore, the null hypothesis ( $H_0$ ) cannot be rejected. This means the series of LGDP has a unit root problem in the level form. The result also indicates that the series is not stationary at these significance levels.

Table 6 also demonstrates that, ADF test statistics values (-8.202848, -8.436374) are much smaller than the critical values of both intercept and trend & intercept at the same significance levels when LGDP is tested with first difference. This result indicates that the series of LGDP has not any unit root problem and the null hypothesis ( $H_0$ ) can be rejected.

On the other hand, the ADF test statistics values in the level form with intercept and trend & intercept of the series of LFDI are much higher than the critical values at the same significance levels, which indicate that the null hypothesis cannot be rejected and the series is not stationary. However, the ADF test statistics values are smaller than the critical values at the same significance levels at the first difference stage with intercept and trend & intercept. This means the null hypothesis cannot be rejected and the series is stationary with all significance levels.

Insert Table 6 Here

#### 4.1.3 Estimated Results for India

Similarly, the results for India indicate that, ADF statistics values of series LGDP are (-0.039747 with intercept and trend & intercept -1.337889) higher than the critical values at 1%, 5% and 10% significance levels for both the intercept and with trend & intercept in the level form. Therefore, the null hypothesis ( $H_0$ ) cannot be rejected. This means that the series of LGDP has a unit root problem in the level form and the series is not stationary at this significant level. On the other hand ADF test statistics values are smaller than the critical values at the same significance levels in the first difference of the series with intercept and trend & intercept. Therefore, the null hypothesis ( $H_0$ ) is rejected for the series of LGDP, which means the series is stationary.

Insert Table 10 Here

Similarly, ADF test statistics values of the series of LFDI in the level form are much higher than the critical values at the significance levels with intercept and trend & intercept. Therefore, the null hypothesis cannot be rejected and series has a unit root problem in the level form. However, the ADF test statistics values at the first difference of series LFDI for both with intercept and trend & intercept are less than the critical values at the same significance levels, which indicates that the series of LFDI is stationary.

### 4.2 Engle-Granger (EG) Two Steps Procedure for Co-integration

The Engle-Granger two-steps procedure is performed to ascertain both the long and short run relationship between LFDI and LGDP through co-integration test. The first stage is carried out to determine the long run relationship using OLS model and second stage to determine the short run relationship. EG states that if variables are  $I(1)$  on their level but the linear combination is  $I(0)$ , then the variables are co-integrated. According to EG (1969) theory, if the variables are co-integrated then there might have Error Correction Mechanism (ECM).

#### 4.2.1 Engle-Granger First Stage (long run) Estimation

##### 4.2.1.1 Estimated Results for Bangladesh

The ADF test was performed with linear and intercepts to determine whether it would be an indication of the existence of a long run equilibrium relationship between the variables. From the OLS model:

Insert Table 4 Here



We found the residual (saved as Res). The ADF test statistics value is -2.457361, which is higher than the critical values at 1%, 5% and 10 % significance levels (values are -4.234972, -3.540238 and -3.202445 respectively). This result indicates that the null hypothesis is rejected which implies 'Res' series is non-stationary. As a result, FDI and GDP are not co-integrated with each other and there is no long run equilibrium relationship between them.

#### 4.2.1.2 Estimated Results for Pakistan

Table 8 shows that the ADF test statistics value is -4.549435 in the first stage estimation that is smaller than the critical values at 1%, 5% and 10 % significance levels (values are -4.234972, -3.540238 and -3.202445 respectively). This result indicates that 'Res' series is stationary and the null hypothesis is rejected, which implies that FDI and GDP are co-integrated and there exists a long run equilibrium relationship between FDI and GDP for Pakistan.

Insert Table 8 Here

#### 4.2.1.3 Estimated Results for India

In the Table 12, the ADF test statistics value is much higher than the critical values at 1%, 5% and 10% significance levels. This result indicates that the null hypothesis cannot be rejected and series is non-stationary, which implies that there is no long run equilibrium relationship between FDI and GDP.

Insert Table 12 Here

#### 4.2.2 Engle-Granger Second Stage (Short run and ECM)

Having confirmed the results of long run relationship between FDI and economic output, Engle-Granger second stage test was carried out to determine the short run relationship between two variables. In the second stage of Engle-Granger approach, residual from the first stage regression is used to correct the errors to test the short run dynamic test. This theory is called Engle-Granger Error Correction Mechanism (ECM) used to test the short run relationship between two series.

##### 4.2.2.1 Estimated Result for Bangladesh

The error correction coefficient value ( $ECM_{t-1}$  used as  $Res(-1)$  (-0.149244) and t-statistics value (-1.7528) are both negative but they are not significant. In this estimation, FDI is positively correlated with economic growth but error correction coefficient comes up with insignificant negative value (-0.149244). This means 14.92% disequilibrium in the short run deviations to the long run each year. On the other hand, both the adjusted co-efficient associated with the  $\Delta DLFDI_{t-1}$  equation and t statistics values are positive with p-values. The figures indicate that there is no relationship between FDI and GDP in short run.

Insert Table 5 Here

##### 4.2.2.2 Estimated Result for Pakistan

The error correction co-efficient value ( $ECM_{t-1}$  named as  $Res'$ ) had the expected negative and significant sign. According to Table 9, there is 25.39% disequilibrium in the short run and it needs to deviate with long run each year. The adjusted co-efficient value of  $\Delta DLFDI_{t-1}$  (-0.036654) and the values of t-statistics (-1.542518) which means it is significant with p -values. The finding of this estimate shows that foreign direct investment has a significant relationship between economic output and FDI in the short run as well as long run.

Insert Table 9 Here

##### 4.2.2.3 Estimated Result for India

The error correction co-efficient value is negative (-0.037855) and 3.78% has to disequilibrium each year in the short run with long run. The t-statistics value of FDI indicates that there is no short run relationship between two variables. The major finding is that there is no relationship in both short run and long run for India.

Insert Table 13 Here

#### 4.3 Granger Causality Test

Granger causality test with three legs results suggest that GDP does not Granger cause with FDI for Bangladesh because the null hypothesis is not rejected when the p-value (0.9542) is greater than the critical value at 5% level of significance. Alternatively, FDI also does not Granger causes with GDP of Bangladesh due to failing to reject the null hypothesis when the p value (0.5148) is higher at the same significance level. Therefore, there is no Granger causality relationship between FDI and economic growth of Bangladesh. Political instability, inappropriate indicators of trade liberalizations, government tariffs etc. could be reasons of it.

Insert Table 14 Here

In the case of India, the results indicate that GDP Granger causes with FDI because F statistics is too higher to reject the null hypothesis at 5% significance level. On the other hand, FDI does not Granger cause with GDP because the null hypothesis cannot be rejected.

Finally, the results suggest that GDP does not Granger cause with FDI of Pakistan because F statistics value is too higher at the 5% significant level. Therefore, the null hypothesis cannot be rejected. On the other hand, there is unidirectional or one-way Granger causal relationship between FDI and GDP. The result also indicates that FDI Granger causes with economic output because we can reject the null hypothesis at this significance level.

## 5. Analysis of Results

In this study, modern time series econometric approach has been used to identify the long and short run equilibrium relationship between FDI and GDP. The Granger causality (GC) relationship has also been investigated between them for three countries. The study identified the poor statistical indication of both long and short run relationship between FDI and GDP of Bangladesh and India but positive and significant relationship for both long run and short of Pakistan. GC results also suggest that there is no Granger causality relationship between FDI and GDP of Bangladesh, however India and Pakistan has one way or unidirectional relationship between GDP and FDI

These results are similar to the paper carried out by Shimul, Abdullah and Siddiqua, (2009) for Bangladesh. They also found “no cointegration” between FDI and economic growth using time series data with ARDL and Engle-Granger two-step mechanism. Another paper studied by Sekmen (2007), found no cointegration with three variables FDI, GDP and EX for Turkey using Granger causality and error correction (ECM) techniques. Feridum (2004) examined the relationship between FDI and economic growth for Cyprus. His result indicated that there was no relationship between two variables but found unidirectional causality GDP with FDI that is similar to our results for Pakistan and India. The same result found by Athukorala (2003) for Srilanka. He found in his study that there was no long run relationship between FDI and economic growth, however GDP caused by FDI. Another similar paper (Aqeel & Nishat (2005)) examined the cointegration for Pakistan found quite similar result with our study result estimated for Pakistan. They also found both short and long run relationship for Pakistan.

However, this study contradicts with the findings of many literatures. Lan (2006) claimed that FDI was an important contribution to improve the economic growth such as for Vietnam. He found the positive relationship between FDI and GDP for Vietnam. That is contradicting with our study. Another research paper studied by Chakraborti & Basu (2002), examined co-integration relationship for both short and long run. They found the positive relationship for both short and long run for India, which is opposite to our study. The reason might be different sources of data collected and different period.

## 6. Conclusion

There are so many arguments for and against of the relationship between foreign direct investment and the economic development of a country. Some researchers discovered stronger relationship between FDI and economic development and some others could not. This study found that FDI behaved differently with GDP for each country. The Eagle Granger first stage test results suggest that there is no relationship between FDI and economic output for Bangladesh and India in the long run. However, the study found the co-integration relationship between FDI and GDP in the long run for the Pakistan.

To confirm the Eagle Granger first stage test for, the second stage test has been carried out which suggests that there is a short run dynamic relation between FDI and economic output in Bangladesh and India. However, there is no short run dynamic relationship between FDI and economic output in Pakistan. On the other hand, Granger Causality test suggests that there is a unidirectional relationship between FDI and GDP and FDI is the vital contributor as well as a significant driver for the economic growth of Pakistan and India. Conversely, there is no causality relationship between GDP and FDI for Bangladesh.

## References

- Apergis, N., & Vamvakidis, A. (2007). The relationship between foreign direct investment and economic growth: Evidence from transitions countries. *Transition Studies Review*, 15, 37-51 <http://dx.doi.org/10.1007/s11300-008-0177-0>
- Aqeel, A., & Nishat, M. (2005). The Determinants of Foreign Direct Investment in Pakistan. *Journal of Economics and Finance*, 109(1), 149-82. [http://www.pide.org.pk/pdf/psde20AGM/THE\\_DETERMINANTS\\_OF\\_FOREIGN\\_DIRECT\\_INVESTMENT\\_IN\\_PAKISTAN.pdf](http://www.pide.org.pk/pdf/psde20AGM/THE_DETERMINANTS_OF_FOREIGN_DIRECT_INVESTMENT_IN_PAKISTAN.pdf).

- Asian Development Bank (ADB) (2007). Foreign Direct Investment in South Asia. South Asia Economic Report, ISSN: 1995-560X, Publication Stock Number: BBK091808, <http://www.adb.org/Documents/Reports/South-Asia-Economic-Report/2008/saer.pdf>.
- Athukorala, P. W. (2003). The Impact of Foreign Direct Investment for Economic Growth: A Case Study in Srilanka. *International Conference on Srilankan Studies*. Full Paper No-092, <http://www.freewebs.com/slageconr/9thicslsflpprs/fullp092.pdf>.
- Balamurali, N., & Bogahawtte, C. (2004). Foreign Direct Investment and Economic Growth in Srilanka,. *Srilankan Journal of Agriculture*, 6(1). <http://www.slageconr.net/sjae/sjae61f/sjae06103.pdf>.
- Borensztein, Gragorio, & Lee (1998). How does foreign direct investment affect economic growth? *Journal of International Economics*, 115–135. [http://dx.doi.org/10.1016/S0022-1996\(97\)00033-0](http://dx.doi.org/10.1016/S0022-1996(97)00033-0)
- Chakraborti, C., & Basu, P. (2002). Foreign Direct Investment and Growth in India: A Co-integration. *Approach. Applied Economics*, 34, 1061-1073. <http://dx.doi.org/10.1080/00036840110074079>
- Feridum, M. (2004). Foreign Direct Investment and Economic Growth: A Causality Analysis for Cyprus, 1976-2002. *Journal of Applied Science*, 14(4), 654-657. <http://scialert.net/abstract/?doi=jas.2004.654.657>.
- Granger, C., W., J. (1969). Investigating causal relations by econometric models and cross spectral methods. *Econometrica*, 37, 424-438. <http://dx.doi.org/10.2307/1912791>
- Granger, C., W., J. (1988). Some recent developments in the concept of causality. *Journal of Econometrics*, 39(1), 199-211. <http://dx.doi.org/10.1017/CCOL052179207X.002>
- Ilhan, O., & Huseyin, K. (2007). Foreign Direct Investment and Growth: An Empirical Investigation Based on Cross-Country Comparison, Working paper, MPRA Paper No. 9636. <http://ideas.repec.org/p/pramprapa/9636.html>.
- Lan, N., P. (2006). Foreign Direct Investment and its Linkage to Economic Growth in Vietnam: A Provincial Level Analysis. Working Paper. University of South Australia, [https://editorialexpress.com/cgi-bin/conference/download.cgi?db\\_name=ESAM07&paper\\_id=24](https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=ESAM07&paper_id=24).
- Li, X., & Liu, X. (2005). Foreign Direct Investment and Economic Growth: An Increasingly Endogenous Relationship. *Journal of World Development*, 33(3), 393-407. <http://58.194.176.234/gjtzx/uploadfile/200904/20090401152909166.pdf>.
- Meyer, K., E. (2003). FDI spill-over in emerging market: A literature review and new prospective. *DRC Working paper*, 15(1). [http://bath.academia.edu/KlausMeyer/Papers/875522/FDI\\_spillovers\\_in\\_emerging\\_markets\\_A\\_literature\\_review\\_and\\_new\\_perspectives](http://bath.academia.edu/KlausMeyer/Papers/875522/FDI_spillovers_in_emerging_markets_A_literature_review_and_new_perspectives).
- Miankhel, A., K., Thangavelu, S., M., & Kalirajan, K. (2009). Foreign Direct Investment, Exports, and Economic Growth in South Asia and Selected Emerging Countries: A Multivariate VAR Analysis. CCAS Working paper No.23, Doshisha University. <http://ccas.doshisha.ac.jp/eng/Epublications/eWP23MiankhelShandre.pdf>.
- Mortaza, M., G., & Das, N., C. ((2007). Foreign Direct Investment, Trade Liberalization and Economic Growth: Empirical Evidence from South Asia and Implications for Bangladesh. Policy Analysis Unit (Pau) Working Paper Series: WP0712. <http://www.bangladesh-bank.org/openpdf.php>.
- Mun, H., W., Siong, E., C., & Thing, T., C. (2008). Stock market and economic growth in Malaysia: Causality test. *Asian Social Science*, 4(4). [http://www.ccsenet.org/journal/index.php/ass/article/download/Stock\\_market\\_and\\_economic\\_growth\\_in\\_Malaysia:\\_Causality\\_test/1519](http://www.ccsenet.org/journal/index.php/ass/article/download/Stock_market_and_economic_growth_in_Malaysia:_Causality_test/1519).
- Rudra, P., & Pradhan. (2009). The FDI led-growth hypothesis in ASEAN-5 countries: Evidence from co-integration panel analysis. *International Journal of Business and Management*, 4(12). <http://ccsenet.org/journal/index.php/ijbm/article/download/3581/3811>.
- Seetanah, & Khadaroo, A., J. (2007). Foreign Direct Investment and Growth: New Evidences from Sub-Saharan African Countries. *Working paper, University of Mauritius*. <http://www.csae.ox.ac.uk/conferences/2007-EDiA-LaWBiDC/papers/169-Seetanah.pdf>.
- Sekman, F. (2007). Co-integration and Causality among Foreign Direct Investment in Tourism Sector, GDP and Exchange Rate Volatility in Turkey. *The empirical Economics Letters*, 6(1),ISSN 1681 8997, Paper No. 8736. [http://mpa.ub.uni-muenchen.de/8736/1/MPRA\\_paper\\_8736.pdf](http://mpa.ub.uni-muenchen.de/8736/1/MPRA_paper_8736.pdf).
- Shimul, S., Abdullah, S., & Siddiqua, S. (2009). An Examination of FDI and Growth Nexus in Bangladesh: Engle-Granger and Bound Testing Co-integration Approach. *BRAC University Journal*, 5(1), 69-76, <http://dspace.bracu.ac.bd/bitstream/handle/10361/455/Shafiu.Nahin.Shimul.pdf?sequence=1>.

Sridharan, P., Vijayakumar, N., & Chandra Sekhara Rao, K. (2009). Causal Relationship between Foreign Direct Investment and Growth: Evidence from BRICS Countries. *International Business Research*, 2(4). <http://ccsenet.org/journal/index.php/ibr/article/view/3660/3442>.

United Nations (2008). World investment report, transnational corporations and the infrastructure challenge. *United Nations conference on trade and development*. <http://www.unctad.org>.

United Nations (2009). World investment report, transnational corporations and agriculture productions and development. *United Nations conference on trade and development*. <http://www.unctad.org>.

Wikipedia (nd). Economy of Pakistan. [http://en.wikipedia.org/wiki/Economy\\_of\\_Pakistan](http://en.wikipedia.org/wiki/Economy_of_Pakistan).

Table 1. FDI inflows of Selected Asian Countries (US \$ in million)

Year	Bangladesh	Pakistan	India	Year	Bangladesh	Pakistan	India
1972	0.09	17	17.79	1991	1.39	271.91	75
1973	2.34	4	37.91	1992	3.72	306.56	252
1974	2.2	4	56.97	1993	14.05	399.3	532
1975	1.5433	25	85.09	1994	11.14	789.34	974
1976	5.42	8.22	51.11	1995	92.3	492.09	2151
1977	6.98	15.22	-36.07	1996	231.6	439.305	2525
1978	7.7	32.27	18.09	1997	575.25	711	3619
1979	-8.01	58.25	48.57	1998	576.46	506	2633
1980	8.51	63.63	79.16	1999	309.12	532	2168
1981	5.36	108.09	91.92	2000	578.7	309	3585
1982	6.96	63.83	72.08	2001	354.5	383	5472
1983	3.4	29.46	5.64	2002	328.3	823	5627
1984	-0.55	55.51	19.24	2003	350.2	534	4323
1985	-6.66	47.44	106.09	2004	460.4	1118	5771
1986	2.44	92.237	117.73	2005	845.3	2201	7606
1987	3.21	110.06	212.32	2006	792.5	4237	20336
1988	1.84	133.71	91.25	2007	666.4	5590	25127
1989	2.25	184.34	252.1	2008	1086.3	5438	41554
1990	3.23	278.33	236.69				

Sources: Constructed from UNCTAD, Major FDI indicators (WIR 2009)

Table 2. ADF test for FDI and GDP for Bangladesh

Variables	Level/ 1 <sup>st</sup> difference	Augmented Dickey Fuller Statistic(ADF) test							
		t-statistics	With Intercept			t- statistics	With trend and Intercept		
			1%	5%	10%		1%	5%	10%
LGDP	Level	-1.689513	-3.62678	-2.945842	-2.611531	-5.159441	-4.234972	-3.540328	-3.202445
	1st Difference	-5.653672	-3.6329	-2.948404	-2.612874	-5.574371	-4.243644	-3.544284	-3.204699
LFDI	Level	-1.649670	-3.626784	-2.945842	-2.611531	-2.274439	-4.234972	-3.540328	-3.202445
	1st Difference	-7.920652	-3.632900	-2.948404	-2.612874	-7.725281	-4.243644	-3.544284	-3.204699

Table 3. Long run relationship between FDI and GDP in Bangladesh

Dependent Variable: LGDP, Method: Least Squares, Sample: 1972-2008, Included observations: 37				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant (C)	9.571946	0.092382	103.613	0
LFDI	0.206747	0.023251	8.892094	0
R-squared	0.693169	Mean dependent var		10.20852
Adjusted R-squared	0.684402	S.D. dependent var		0.632234
S.E. of regression	0.355177	Akaike info criterion		0.820135
Sum squared resid	4.415266	Schwarz criterion		0.907212
Log likelihood	-13.1725	Hannan-Quinn criter.		0.850834
F-statistic	79.06934	Durbin-Watson stat		0.490013
Prob(F-statistic)	0			

Table 4. Unit root for saved Residual through ADF

Series	ADF t statistics	Test Critical Values with Trend & Intercept		
		1%	5%	10%
Res (saved as residual)	-2.457361	-4.234972	-3.540328	-3.202445

Here the long run OLS models is  $LGDP = 9.57194586662 + 0.20674725651 * LFDI$

Table 5. Short Run Relationship between FDI and GDP for Bangladesh

Dependent Variable: DLGDP, Method: Least Squares, Sample: (adjusted) 1972-2008, Included observations: 37 after adjustments				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant (C)	0.059992	0.028948	2.072371	0.0464
DLFDI (-1)	0.021546	0.035312	0.610147	0.5461
RES (-1)	-0.149244	0.085146	-1.7528	0.0892
R-squared	0.133459	Mean dependent var		0.065188
Adjusted R-squared	0.0793	S.D. dependent var		0.169534
S.E. of regression	0.162673	Akaike info criterion		-0.71233
Sum squared resid	0.846799	Schwarz criterion		-0.57902

\*\*indicates statistical significance at 0.05 level

Table 6. ADF test for FDI and GDP for Pakistan

Variables	Level/ 1 <sup>st</sup> difference	Augmented Dickey Fuller Statistic(ADF) test							
		t-statistics	With Intercept			t- statistics	With trend and Intercept		
			1%	5%	10%		1%	5%	10%
LGDP	Level	-0.389534	-3.6268	-2.945842	-2.611531	-1.919313	-4.234972	-3.540328	-3.202445
	1st Difference	-8.202848	-3.6329	-2.948404	-2.612874	-8.436374	-4.243644	-3.544284	-3.204699
LFDI	Level	-0.495709	-3.626784	-2.945842	2.611531	-3.522867	-4.234972	-3.540328	-3.202445
	1st Difference	-8.116388	-3.632900	-2.948404	-2.612874	-7.934223	-4.243644	-3.544284	-3.204699

Table 7. Long run relationship between FDI and GDP for Pakistan

Dependent Variable: LGDP, Method: Least Squares, Sample: 1972-2008, Included observations: 37				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant (C)	8.432502	0.103411	81.54321	0
LFDI	0.416006	0.018899	22.01216	0
R-squared	0.932632	Mean dependent var		10.577
Adjusted R-squared	0.930707	S.D. dependent var		0.8015
S.E. of regression	0.21099	Akaike info criterion		-0.2215
Sum squared resid	1.558094	Schwarz criterion		-0.1344
Log likelihood	6.097186	Hannan-Quinn criter.		-0.1908
F-statistic	484.5354	Durbin-Watson stat		1.2481
Prob(F-statistic)	0			

Table 8. ADF test for saved residual for Pakistan

Series	ADF t statistics	Test Critical Values with Trend & Intercept		
		1%	5%	10%
Res (saved as residual)	-4.549435	-4.234972	-3.540328	-3.202445

Here the long run OLS models is  $LGDP = 8.43250223038 + 0.416006138326 * LFDI$

Table 9. Short run Relationship between FDI and GDP for Pakistan

Dependent Variable: DLGDP, Method: Least Squares, Sample: (adjusted) 1974-2008, Included observations: 37 after adjustments				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant (C)	0.103077	0.013574	7.593698	0
DLFDI (-1)	-0.03665	0.023762	-1.542518	0.1328
RES (-1)	-0.25391	0.074774	-3.395705	<b>0.0018**</b>
R-squared	0.265002	Mean dependent var		0.0937
Adjusted R-squared	0.219065	S.D. dependent var		0.0858
S.E. of regression	0.075822	Akaike info criterion		-2.2391
Sum squared resid	0.183965	Schwarz criterion		-2.1057

\*\*indicates statistical significance at 0.05 level

Table 10. ADF test for FDI and GDP for India

Variables	Level/ 1 <sup>st</sup> difference	Augmented Dickey Fuller Statistic(ADF) test							
		t-statistics	With Intercept			t-statistics	With trend and Intercept		
			1%	5%	10%		1%	5%	10%
LGDP	Level	-0.039747	-3.6268	-2.945842	-2.611531	-1.337889	-4.234972	-3.540328	-3.202445
	1st Difference	-4.4916	-3.6329	-2.948404	-2.612874	-4.471532	-4.243644	-3.544284	-3.204699
LFDI	Level	-2.676343	-4.234972	-3.540328	-3.202445	-2.676343	-4.234972	-3.540328	-3.202445
	1st Difference	-6.105933	3.632900	-2.948404	-2.612874	-6.125380	-4.243644	-3.544284	-3.204699

Table 11. Long run relationship between FDI and GDP for India

Dependent Variable: LGDP, Method: Least Squares, Sample: 1972-2008, Included observations: 37				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant (C)	10.92635	0.146081	74.79638	0
LFDI	0.271986	0.022701	11.9813	0
R-squared	0.803978	Mean dependent var		12.55682
Adjusted R-squared	0.798378	S.D. dependent var		0.719475
S.E. of regression	0.323061	Akaike info criterion		0.63059
Sum squared resid	3.652905	Schwarz criterion		0.717667
Log likelihood	-9.665916	Hannan-Quinn criter.		0.661289
F-statistic	143.5516	Durbin-Watson stat		0.467808
Prob(F-statistic)	0			

Table 12. ADF test for saved residual for India

Series	ADF t statistics	Test Critical Values with Trend & Intercept		
		1%	5%	10%
Res (saved as residual)	-2.437332	-4.234972	-3.540328	-3.202445
Here the long run OLS models is $LGDP = 10.9263512536 + 0.271986398889 * LFDI$				

Table 13. Short run Relationship between FDI and GDP for India

Dependent Variable: DLGDP, Method: Least Squares, Sample: (adjusted) 1974-2008, Included observations: 37 after adjustments				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant (C)	0.06946	0.013517	5.138563	0
DLFDI (-1)	0.033215	0.017992	1.846066	0.0742
RES (-1)	-0.03786	0.045096	-0.839425	0.4075
R-squared	0.158963	Mean dependent var		0.0937
Adjusted R-squared	0.106398	S.D. dependent var		0.0858
S.E. of regression	0.076548	Akaike info criterion		-2.2391
Sum squared resid	0.187507	Schwarz criterion		-2.1057
Log likelihood	41.84964	Hannan-Quinn criter.		-2.174
F-statistic	3.024139	Durbin-Watson stat		1.3566
Prob(F-statistic)	0.062667			

\*\*indicates statistical significance at 0.05 level

Table 14. Result of Granger causality test (tested with 3 lags)

Countries	Null Hypothesis	Observations	F-Statistic	Probability
<b>Bangladesh</b>	DLGDP does not Granger Cause DLFDI	33	0.10887	0.9542
	DLFDI does not Granger Cause DLGDP		0.78196	0.5148
<b>India</b>	DLGDP does not Granger Cause DLFDI	33	3.14882	0.0419**
	DLFDI does not Granger Cause DLGDP		2.58384	0.0748
<b>Pakistan</b>	DLGDP does not Granger Cause DLFDI	33	0.27979	0.8395
	DLFDI does not Granger Cause DLGDP		4.64545	0.0099**

\*\*indicates statistical value at 5% significance level

# Decomposed Approach of Market Orientation and Marketing Mix Capability: Research on Their Relationships with Firm Performance in the Korean Context

Sohyoun Shin

College of Business and Public Administration, Eastern Washington University

668 N. Riverpoint Blvd. Spokane, WA 99202, U.S.A

Tel: 1-509-828-1243 E-mail: sshin@ewu.edu

Received: June 6, 2011

Accepted: October 18, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p22

URL: <http://dx.doi.org/10.5539/ibr.v5n1p22>

## Abstract

The notion that market orientation provides firms a source of competitive advantage seems to be widely accepted since the effects of market orientation on business performance have been extensively researched and many studies have confirmed their affirmative relationships. However, aggregated approach of market orientation as one single construct has left the detailed investigations yet unexplored despite its tremendous contribution in marketing strategy arena. Thus, decomposed properties of market orientation and their relationships with various components of firm success were explored to precisely examine the paths in this study. Furthermore, to resolve conflicting arguments on whether market orientation has a direct influence on firm level consequences, marketing mix capability was suggested as a critical mediator to complete a resource deployment system rather than a resource possession approach, which is equivalent to resource-based view. From an analysis of a survey data of 285 Korean organizations, three dimensions of market orientation, namely customer orientation, competitor orientation, and interfunctional coordination, and four sub-constructs of marketing mix capability, such as product, communication, channel and pricing capability, along with their impacts on business performance were investigated in detail. This study revealed that customer orientation and interfunctional coordination had a direct impact on only customer satisfaction while all three dimensions of market orientation failed to directly link to other firm performance variables like market effectiveness, adaptability, and profitability. To bridge these relationships product and communication capabilities were proven to be a necessary condition while channel capability and pricing capability showed interesting relationships. Findings and implications were discussed and limitations and further research directions were also suggested.

**Keywords:** Market orientation, Customer orientation, Competitor orientation, Interfunctional coordination, Marketing capability, Product capability, Communication capability, Channel capability, Pricing capability, Firm performance, Resource-based view

## 1. Introduction

### 1.1 Research Background

There have been numerous researches on conceptualization of market orientation and its relationship with business performance. The notion that market orientation provides firms a source of competitive advantage seems to be widely accepted since there are a large number of studies confirming that market orientation associates positively with various dimensions of firm performance (Aziz & Yassin, 2010; Homburg & Pflesser, 2000; Jaworski & Kohli, 1993; Mahmoud, 2011; Ruekert, 1992; Slater & Narver, 1994, 2000; Wei & Morgan, 2004; Zhou, Le, & Su, 2008) including a meta-analysis providing a positive, significant, and robust link (Kirca, Jayachandran, & Bearden, 2005). However, another group of studies report no significant relationship (Deshpande, Farley, & Webster, 1993; Diamantopoulos & Hart, 1993; Greenley, Hooley, & Rudd, 2005; Han, Kim, & Srivastava, 1998; Pelham, 1997; Siguaw, Simpson, & Baker, 1998), or find mixed results (Greenley, 1995; Jaworski & Kohli, 1993), showing that perhaps the relationship is more complex than a directly linked linear one (Hult & Ketchen, 2001). Thus, market orientation as a critical organizational resource for a firm level success is very plausible and persuasive yet how to deploy this important intangible asset to obtain better firm rents has not been fully explored. As a shortcoming of resource-based view approach, only possession of this essential resource may not automatically result affirmative



business consequences. The actualization through organizational capability should provide a missing link between market orientation and business performance drawing a whole structure of resource deployment system. Furthermore, to understand the detailed natures of market orientation, a disaggregated view of market orientation; customer orientation and competitor orientation; has been started to treat each component as an important separate construct in developing a competitive advantage (Gatignon & Xuereb, 1997; Lukas & Ferrell, 2000). Therefore, researches on market orientation should shift its focus, moving from the study of the effect of single-dimensioned market orientation on business performance to the study of the impact of decomposed level of market orientation on firm performance and understandings of the distinctive characteristics of each dimension as a separate construct.

The objective of the study is to examine the detailed effects of the decomposed variables of market orientations; customer orientation, competitor orientation, and interfunctional coordination, on firm level performance variables through a mediator of marketing mix capability. All these three focal constructs are to be investigated at the disaggregated level to provide deeper understandings on how organizational resources like customer intimacy and close sensing on competitors' actions are engineered through marketing execution tools and ultimately transform into business performance. All the detailed relationships are to be suggested based on the specific theoretically driven paths in this study. Thus, the findings may provide new insights regarding the process by which market orientation is connected with firm performance and also indicate that market orientation requires complementary organizational capabilities if its values are to be fully realized. This study provides a new empirical support for the complete resource deployment system of market orientation-capability-performance in the Korean context.

### *1.2 Research Model*

Figure 1 illustrates the research model in this study. The author proposes the relationship among three components of market orientation and four types of marketing mix capability with four dimensions of firm performance. More specifically, the author attempts to derive the layered relationships among market orientation, critical mediating factor for firm success; marketing capability, and business performance, which is firm level consequence of customer satisfaction, market effectiveness, adaptability, and profitability.

## **2. Theoretical Background and Hypotheses**

A review of the literature reveals diverse definitions of the market orientation. Narver & Slater (1990) define market orientation as "the organization culture that most effectively creates the necessary behaviors for the creation of superior value for buyers and, thus, continuous superior performance for the business" (Narver & Slater, 1990, p. 21). By suggesting that market orientation is essentially an 'organization culture,' Narver and Slater (1990) appear to adopt a cultural perspective (Deshpande & Webster, 1989). This culture comprises three behavioral components: customer orientation, competitor orientation and interfunctional coordination (Narver & Slater, 1990). In other hand, Kohli & Jaworski (1990, p. 6) define market orientation as "the organization-wide generation of market intelligence pertaining to current and future customer needs, dissemination of intelligence across departments, and organizationwide responsiveness to it." Both concepts of market orientation place the highest priority on the profitable creation and maintenance of superior customer value, so market orientation and its positive effects on business performance including new product success and profitability have been extensively studied (e.g., Grinstein, 2008; Han, Kim, & Srivastava, 1998; Jaworski & Kohli, 1993; Narver & Slater, 1990; Slater & Narver, 1994, 2000; Zhou & Li, 2010).

However, cultural orientation or organizational climate like customer and competitor orientation doesn't seem to reach out to business performance in a direct way without any execution mechanism. Thus, this principal question concerning how each of decomposed values of market orientation transforms into firm performance and if there should be a mediator, how they collectively enable the organization to better perform through the mediator should be explored and answered. The author proposes that marketing mix capability may complete the missing bridge between market orientation and business performance since marketing capability is defined as "an organization's repeatable patterns to apply the resources of the firm to the market-related needs of the business" (Amit & Shoemaker, 1993; Day 1994; Shin, Lee, & Cha, 2009; Vorhies & Morgan, 2005). The detailed paths among market orientation; customer orientation, competitor orientation, and interfunctional coordination; and marketing mix capability; product, communication, channel, and pricing capability; with firm performance; customer satisfaction, market effectiveness, adaptability, and profitability are to investigate in this study.

### *2.1 Customer Orientation, Marketing Mix Capability and Firm Performance*

Customer orientation emphasizes the sufficient understanding of the target customers so as to deliver superior values for them. Thus, customer-oriented firms show a continuous and proactive disposition toward identifying and meeting customers' expressed and latent needs (Han, Kim, & Srivastava, 1998). With customer-oriented values, firms excel in creating and maintaining bonds with customers and therefore obtain affirmative attitudes, linking

customer satisfaction as well as positive financial outcomes (Zhou & Li, 2010). However, in some cases cultural value like customer orientation is not just enough for cultivating firm performance. To deploy this strategic orientation for better firms' results, well-designed marketing functional process may be needed as a sufficient condition to enable it. Hence, marketing mix capability is expected to act as a connecting engine by carefully reforming a new solution, developing novel approaches of advertisements and sales promotions, providing a right range of the pricing scheme, and placing products at the right place and time for the customers. These carefully programmed and deployed marketing activities can transform the organizational cultural level of customer orientation to better customer satisfaction, market share growth, and profitability. From its clear concept, it is very plausible that marketing mix capability links an essential intangible asset of the firm like customer orientation to better firm performance. Especially when customer needs change in rapid, customer orientation enables firms to recognize those changes, and guides themselves to investigate necessary actions and build relevant abilities to develop appropriate programs to meet customers' needs. When the market circumstances are rather stable, each different aspects of marketing mix capability can also be continuously enhanced by sharing core values in customer-centric view. As implied, firms should be customer-oriented and equipped with marketing mix capability to effectively employ this orientation for optimal level marketing activities, which may result in firm performance. Hence, the author hypothesizes that:

H1: Customer orientation of a firm increases its business performance via marketing mix capability.

### *2.2 Competitor Orientations Marketing Mix Capability and Firm Performance*

Competitor orientation focuses on understanding the strengths and weaknesses of existing and potential competitors as well as on monitoring their behaviors to convert into better ideas to meet the latent and potential needed of the customers (Narver & Slater, 1990). With a deep understanding of rivals, a firm can assess its position, determine appropriate strategies, and respond quickly to competitors' actions by promptly altering precise actions in a short run and also by developing modified marketing programs in a long run. Grinstein (2008) has claimed that market orientation components positively affect new product process, which is also a critical part of marketing mix capability, and the effect of competitor orientation to new product success depends on a minimum level of customer orientation in his meta-analysis. In a longitudinal study of retail industry, competitor orientation is proven to have a strong impact on business performance (Nobel, Sinha, & Kumar, 2002). Meanwhile, some other studies have failed to prove the relationship between competitor orientation and market adaptive capability, which is organizational competency of reacting properly to changes in market needs with new products or new market creation (e.g., Zhou & Li, 2010). Although the exact relationship between competitor orientation and marketing mix capability has rarely been explored, competitor orientation is still expected to facilitate firms' marketing mix capability. Firms should adapt the market dynamics caused by competitors and try to better understand the altered market needs, hence better firm performance because the objective of competitor-centered approach is to keep pace with or remain ahead of competitors (Han, Kim, & Srivastava, 1998). In addition, competitor orientation helps firms configure or reconfigure their resources to provide advanced customer values and satisfaction by investigating competitive, differentiated, and also distinctive marketing programs. Specifically, firms' ability of competitive pricing strategy, differentiated channel management, and unique marketing communications can be better supported by high level of organizational competitor orientation. These combinations of resources and capability may result in better firm performance. Hence, the author hypothesizes that:

H2: Competitor orientation of a firm increases its business performance via marketing mix capability.

### *2.3 Interfunctional Coordination, Marketing Mix Capability and Firm Performance*

The third of the three core components of market orientation is interfunctional coordination that is the coordination of personnel and other resources from throughout the company to create value for customers. Companies that seek effective interfunctional coordination do so from a understanding that all departments in a firm should be sensitized to act in the best interests of the customer and that each department is important in delivering superior customer value. Porter (1985) emphasizes that every department, facility, branch office and other organizational unit has a role that must be defined and understood and all employees, regardless of their distance from the strategy formulation process, must recognize their role in helping a firm achieve and sustain competitive advantage. There are many potential interfaces between the company and its customers hence the need to ensure all functional areas are committed to delivering superior value. As a component of market orientation interfunctional coordination has been proven to have a direct or an indirect link to various dimensions of business performance such as new products development (Grinstein, 2008; Han, Kim, & Srivastava, 1998), profitability (Narver & Slater, 1990), and overall business performance (Jaworski & Kohli, 1993). However, there are relatively little studies which exclusively focus on the direct relationship between interfunctional coordination and business performance although there is a general

notion that the overall effectiveness of the company's value proposition linking to profitability may be significantly compromised with interfunctional supports. This organizational value is expected to contribute to business performance if it is correctly guided to be used on which specific marketing activities. Therefore, interfunctional coordination may help firms generate better customer value when it is combined with execution abilities of marketing programs such as advanced new solution development process, integrative marketing communications and well supported networks design. Hence, the author hypothesizes that:

H3: Interfunctional coordination of a firm increases its business performance via marketing mix capability.

### **3. Research Design**

#### *3.1 Sampling the Population*

Survey with a convenience sampling method was used in this study. The sample was restricted to the area of Seoul the capital of South Korea and its metropolitan coverage since more than one quarter of the total population resides. Moreover most suitable organizations as representative samples are located within this area. Using a list of Korean top 500 firms in terms of sales a contact list of marketing and relevant department managers was formulated. Also not to be idiosyncratic to any specific industry type or size of the firms, the data were also collected from various other sources. Though it was more like a random data collection, several restricted conditions were applied. No more than two participants from the same organization joined the survey and the size and the life of the organizations were also strictly controlled not to fall into too small and young businesses only. Respondents were selected based on their responsibilities concerning various marketing related functions based on their self-identified expertise in the relevant area. The detailed instructed questionnaire with the cover letter explaining the research objectives was sent to the key informants by email after the initial contact. There were total two times of follow-up calls and also emails to encourage their participation. Data collection occurred over six weeks and resulted in a sample of 298. After discarding 13 unusable questionnaires, total 285 were determined to use for analysis.

#### *3.2 Sample Characteristics*

Among 285 companies 107 were manufacturing and 105 were service organizations. The average firm age was over 27 years ranging from 2 to 120 years. 82.4% of all the organizations, or strategic business units, had at least more than 100 employees with the minimum of 10. 61.4% of the respondents were managers or above and 51.6% were in marketing related functions including marketing, sales and strategy. Also respondents in research and development were 50 or 17.5% and in general management were 26 or 9.1%. The average working years of the participants in the current job was 6.4 years ranging from 2 to 27. Demographic information of the samples is in Table 1.

#### *3.3 Data Collection and Procedure*

To avoid any method bias, the procedure of data collection was carefully designed. The respondents' answers were concealed to be anonymous such that this procedure should reduce their evaluation apprehension and the tendency of being socially desirable, which are the known sources of common method effects obtained by a common rater (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Furthermore, to detect possible problems with non-response error, the author used two methods. First, according to the test for non-response bias by Armstrong & Overton (1977), the tests between early and late respondents; first three weeks vs. last three weeks; were checked to examine the differences regarding the characteristics across the samples. Second, the author also did a t-test comparing the means of all variables for the random sample versus all other respondents. From two tests, the author found no statistically significant differences. Hence, on an overall basis, it was concluded that the likelihood of non-response bias was minimal (Armstrong & Overton, 1977). Following Narver & Slater (1990), the unit of analysis in our study was the respondent's 'business unit' as it operates in its 'principal served market.'

#### *3.4 Measures*

All of the measures used in this study were drawn from the existing literature. After the relevant original scales were fully examined and translated into a local language, they were altered and adapted. However, adaptation and alteration levels varied depending on the scales to fit the research contexts. Market orientation was asked in total twelve items; customer orientation in four items, competitor orientation in four items, and interfunctional coordination in four items. These measures were slightly adjusted based on the original items of the previous studies by Narver & Salter (1990) and Gatignon & Xuereb (1997). Marketing mix capability was asked in total nineteen items; product capability in four items, communication capability in five item, channel capability in five item, and pricing capability in five item. These items were reconstructed based on the various sets of marketing capability measures in the previous studies (e.g., Vorhies & Morgan, 2003).

For the dependent constructs total fourteen subjective measures; customer satisfaction in four items, market effectiveness in four items, adaptability in three items, and profitability in three items were adopted from the

previous studies. The respondents' subjectively evaluated their own firm's customers' satisfaction was measured as customer satisfaction, using a synthesis of previous measures (e.g., Fornell, Johnson, Anderson, Cha, & Bryant, 1996; Vorhies & Morgan, 2005). It represents the effectiveness of the organization in delivering value to its customers (Day & Wensley, 1988; Kaplan & Norton, 1996). Market effectiveness, using a scale that tapped the degree to which the firms' market-based goals had been accomplished (e.g., Ruekert, Walker, & Roering, 1985; Vorhies & Morgan, 2003), was also measured as one of business performance. Adaptability was measured, that represents the ability of the firm to respond to changes in its environment (Ruekert, Walker, & Roering, 1985) and is considered to ultimately reflect in the market success of an organization's new products and/or services (Kaplan & Norton, 1996; Ruekert, Walker, & Roering, 1985). Profitability, using perceptual scales related to financial performance over the past twelve months (e.g., Morgan, Clark, & Gooner, 2002) was also asked. Profitability is that efficiency relates to the ratio between organizational outputs and the required inputs (Ruekert, Walker, & Roering, 1985) and frequently viewed by some researchers as the ultimate organizational outcome (e.g., Hunt & Morgan, 1995).

All measures used are 7-point, Likert-type scales with the anchors 1=strongly disagree to 7=strongly agree. For further information and analysis, industry of firm and the year duration the firm has operated were asked including the numbers of employees and annual dollar sales. The number of years the respondents work and their professional functions were also recorded as control variables.

### *3.5 Measure Item Modification and Questionnaire Translation*

To develop the measures for marketing mix capability raw scales were created based on the relevant literature reviews and interviews with marketing experts both in academic and practical fields. The basic categorizations were accepted based on marketing mix tools and relevant studies concerning marketing capability. However, for marketing mix capability, there are some studies approaching as a single construct (e.g., Chang, 1996; O'Cass & Weerawardena, 2010; Weerawardena, 2003), and as multiple constructs (e.g., Tsai and Shih, 2004; Morgan, Vorhies, & Mason, 2009; Vorhies & Morgan, 2005). Thus, the author decided to reconstruct the items based on the set developed by Vorhies & Morgan (2005) as specific marketing capability and other sub-divisional sets of the measures from the studies by Day (1994), Moore & Fairhurst (2003), and O'Cass & Weerawardena (2010). Through a sophisticated scales development procedure, four areas were determined. Product capability covers more than new product development in this study. This concept pertains to new product development, current product management, and total portfolio control. The scales from promotion capability and sales capability were found to be highly correlated so they were combined as communication capability. Communication capability contains marketing promotion effectiveness including advertising and public relations, and sales promotion skills for the long-term benefits. Channel capability consists of channel management and network competency including alliance formulation. Pricing capability holds sophisticated skills on price setting and adjustment, and monitoring and responding to competitor's pricing.

In the process of translating original English measures into Korean, the author conducted several interviews with business experts and researchers in the related fields again. To enhance translation equivalence, the translation-backtranslation method was used (Douglas & Craig, 1983). The translated questionnaires were also pre-tested by fifteen master course students with at least one-year field experience in the metropolitan area of Korea. Pretest samples were not included in the analysis sample since some of the items were amended or even dropped to better fit the context for this study.

## **4. Data Analysis and Results**

### *4.1 Reliability Check*

The measurement properties of the scales in this study were assessed via confirmatory factor analysis (CFA) and reliability check. In the CFA model all the constructs represents first-order factors. The measurement model showed a good fit with  $\chi^2 = 1826.35$  (RMSEA = .061, SRMR = .048, CFI = .92, NNFI = .91). All items were loaded significantly on their designated constructs with no evidence of cross-loading. Factor and item loadings all exceeded .65, with t-values between 11.56 and 21.02. A test of reliability using Cronbach's coefficient alpha showed that all three sub-constructs of market orientation exceeded Nunnally's (1978) standard of .70 (customer orientation: .90; competitor orientation: .83; interfunctional coordination; .91). Cronbach's alpha for all of marketing mix capability also exceeded Nunnally's (1978) standard (product capability: .85; communication capability; .93; channel capability: .92; pricing capability: .92). All the dependent measures also satisfied the cut-off standard (customer satisfaction: .94; market effectiveness; .91; adaptability: .91; profitability: .92). Therefore, the author established support for convergent validity (Bagozzi & Yi 1988) of the constructs, exhibiting good measurement properties. The summed means of all the measures were used for the hypotheses analysis.

#### 4.2 Research Model Test Results

The presented path model was assessed using multi-level regression with SPSS suite. First, all affirmative relationships between all three components of market orientation and all four marketing mix capability were supported. For customer orientation an influence of .367, .314, .127, and .214, for competitor orientation an influence of .355, .276, .329, and .338, and for interfunctional coordination an influence of .110, .199, .230, and .125 on product, communication, channel and pricing capability in order were found. All the relationships were statistically supported. However, only product and communication capability were proven to have positive impacts on all four dimensions of firm performance; customer satisfaction, market effectiveness, adaptability, and profitability. Specifically, the impacts of product capability on each of business performance values were .408, .377, .352, and .399 and the impacts of communication capability were .548, .426, .574, and .336 in order. Meanwhile pricing capability on customer satisfaction and channel capability on profitability only showed statistically proven relationships (104 and -.144 in order). Interestingly, the relationship between channel capability and profitability showed a negative correlation, which was an opposite of the predicted direction. One more interesting result was that competitor orientation showed a negative direct link to customer satisfaction (-.120) although customer orientation and interfunctional coordination were proven to have direct positive impacts on customer satisfaction (.122 and .117 in order). The results of the analysis of all the paths in the proposed model were presented with R square (Adj. R square) and F values for each equations in Table 2 and Table 3.

### 5. Discussions

#### 5.1 Findings and Implications

This study delivers several meaningful contributions. First, this study provides another evidence that market orientation links to business performance in indirect way. Without marketing mix capability none of customer orientation, competitor orientation, or interfunctional coordination has directly contributed to better firm performance except customer satisfaction. Especially, competitor orientation has been proven to have a direct negative impact on customer satisfaction in this study, and it is certain that a critical mediator like marketing capability is needed to neutralize its impact, or even turn its negative influence into positive. Through two types of marketing mix capability, which are specific organizational processes of product development and marketing communication, competitor orientation has successfully converted its critical contribution to firm rents. Second, as a critical mediator, product and communication capabilities have satisfyingly linked all three sub-constructs of market orientation with business performance. However, pricing capability has shown an affirmative relationship with only customer satisfaction while channel capability has shown a negative connection with profitability. This interesting result suggests further investigation between marketing mix capability and business performance while clearly indicates product and communication capabilities are the most critical connectors between market orientation and firm performance. Third, among control variables firm size and industry type also have presented interesting relationships with business performance. Large firms have proven to have a better capability of product and communication while manufacturing industry has shown to have a better ability on pricing strategy than service firms. It may be worthwhile to investigate more regarding the influence of control variables to deeper understand the relationship with the focal constructs. Forth, by assessing all the relationships of the focal constructs at a disaggregated level, this study has provided very detailed guidelines to the academicians and business practitioners on how to utilize organizational resources as a competitive advantage creator. The importance of learning the systematic process towards business performance started from market orientation has been proven in this study.

The author also believes that the findings provide a few implications in the context of execution of marketing strategy to marketing practitioners searching a way out from harsh competitive environments. First, to blossom an organization's business, marketing executives should accept that essential cultural value like market orientation plays an important role to obtain better business results but should not assume as a sufficient condition. Rather they should foster marketing capability including product and communication ability since these two capabilities have proven to be the most impactful factor in the study. Since only possession of cultural orientation does not automatically generate business performance, careful budget allocations on each sub-construct may bring balanced assignments and higher productivity leading to excellent performance. Therefore, marketing executives should deeply consider how to designate their limited resources to where to carpet productive processes from cultural resources, marketing mix capability, to firms' positive consequences. The author may suggest possible answers to them why the organizations with the same amount of resources differ from each other regarding their business performance.

#### 5.2 Limitations and Directions

Despite insights gained through our results, there are several limitations of the study. The main limitation is this

research was conducted with the survey responses provided by one key informant per firm or business unit. Although such an approach has long been fruitfully used in strategy research (Hult, Ketchen, and Slater, 2005), using multiple informants might be recommended for further research. Second, though the author designed the research avoiding any possible bias incidence, it may be impossible not to accept that there is still a chance. Specifically, subjective measures of organizational performance from managerial professionals were considered to be consistent with objective performance (e.g., Naman and Slevin 1993) but objective scales may be needed to consolidate the results. Further, this study did not investigate the interrelationships among sub-constructs themselves. The author did not offer a specific hypothesis, but expects that each of components will be significantly related to each other. Additional research might explore more complete research regarding other paths of strategic orientations such as learning and technology orientation, to business performance with or without a mediator. Moreover, studies on how the relationships among focal constructs differ based on various contextual contexts including environmental turbulence and competitive intensity. In other words, further research might extend our hypotheses to different research domains with more fine-tuned constructs from multi informants across more various industries.

## References

- Amit, Raphael, & Paul J. H. Shoemaker. (1993). Strategic Assets and Organizational Rent. *Strategic Management Journal*, 14 (1), 33-46. <http://dx.doi.org/10.1002/smj.4250140105>
- Armstrong, J. Scott, & Terry S. Overton. (1977). Estimating Non-response Bias in Mail Surveys. *Journal of Marketing Research*, 14 (August), 396-402. <http://dx.doi.org/10.2307/3150783>
- Aziz, Norzalita Abd, & Norjaya Mohd Yassin. (2010). How Will Market Orientation and External Environment Influence the Performance among SMEs in the Agro-Food Sector in Malaysia? *International Business Research*, 3(3), 154-164.
- Bagozzi, Richard P., & Youjae Yi. (1988). On the Evaluation of Structural Equation Models. *Journal of the Academy of Marketing Science*, 16 (1), 74-94. <http://dx.doi.org/10.1007/BF02723327>
- Chang, Tung-lung. (1996). Cultivating Global Experience Curve Advatage on Technology and Marketing Capabilities. *International Marketing Review*, 13 (6), 22-42.
- Day, G. S., & R. Wensley. (1988). Assessing Advantage: A Framework for Diagnosing Competitive Superiority. *Journal of Marketing*, 52(2), 1-20. <http://dx.doi.org/10.2307/1251261>
- Day, G. S. (1994). The Capabilities of Market-Driven Organizations. *Journal of Marketing*, 58 (4), 37-52. <http://dx.doi.org/10.2307/1251915>
- Deshpande, Rohit, John U Farley, & Frederick E. Jr. Webster (1989). Organizational Culture and Marketing: Defining the Research Agenda. *Journal of Marketing*, 53(1), 3-15. <http://dx.doi.org/10.2307/1251521>
- Deshpande, Rohit, John U Farley, & Frederick E. Jr. Webster (1993). Corporate Culture, Customer Orientation, and Innovativeness in Japanese Firms: a Quadrad Analysis. *Journal of Marketing*, 57, 23-37. <http://dx.doi.org/10.2307/1252055>
- Diamantopoulos, A., & S. Hart (1993). Linking Market Orientation and Company Performance: Preliminary Evidence on Kohli and Jaworski's Framework. *Journal of Strategic Marketing*, 1, 93-121. <http://dx.doi.org/10.1080/096525493000000007>
- Douglas, SP., & CS Craig. (1983). *International Marketing Research*. Englewood Cliffs, (NJ): Prentice Hall.
- Fornell, Claes, Michael D. Johnson, Eugene W. Anderson, Jae-sung Cha, & Barbara Everett Bryant (1996). The American Customer Satisfaction Index: Nature, Purpose, and Findings. *Journal of Marketing*, 60, 7-18. <http://dx.doi.org/10.2307/1251898>
- Gatignon, Hubert, & Jean-Marc Xuereb. (1997). Strategic Orientation of the Firm and New Product Performance. *Journal of Marketing Research*, 34, 77-90. <http://dx.doi.org/10.2307/3152066>
- Greenley, Gordon E. (1995). Forms of Market Orientation in UK companies. *Journal of Management*, 32(1), 47-66.
- Greenley, Gordon E., Graham J. Hooley, & ohn M. Rudd. (2005). Market Orientation in a Multiple Stakeholder Orientation Context: Implications for Marketing Capabilities and Assets. *Journal of Business Research*, 58(11), 1483-1494. <http://dx.doi.org/10.1016/j.jbusres.2004.07.004>
- Grinstein A. (2008). The Relationships between Market Orientation and Alternative Strategic Orientations: A Meta-analysis. *European Journal of Marketing*, 42(1/2), 115-134. <http://dx.doi.org/10.1108/03090560810840934>
- Han, Jin K., Kim, Namwoon, & Srivastava, Rajendra K. (1998). Market Orientation and Organizational

- Performance: Is Innovation the Missing Link? *Journal of Marketing*, 62, 30-45. <http://dx.doi.org/10.2307/1252285>
- Homburg, Christian, & Pflesser Christian. (2000). A Multiple-Layer Model of Market-Oriented Organizational Culture: Measurement Issues and Performance Outcomes. *Journal of Marketing Research*, 37(4), 449-462. <http://dx.doi.org/10.1509/jmkr.37.4.449.18786>
- Hult, G. Tomas M., & David J. Ketchen Jr. (2001). Does Market Orientation Matter?: A Test of the Relationship between Positional Advantage and Performance. *Strategic Management Journal*, 22(9), 899-906. <http://dx.doi.org/10.1002/smj.197>
- Hult, G. Tomas M., David J. Ketchen Jr, & Stanley F. Slater. (2005). Market Orientation and Performance: An Integration of Disparate Approaches. *Strategic Management Journal*, 26(12), 1173-1181. <http://dx.doi.org/10.1002/smj.494>
- Hunt, S. D., & Morgan, R. M. (1995). The Comparative Advantage Theory of Competition. *Journal of Marketing*, 59, 1-15. <http://dx.doi.org/10.2307/1252069>
- Jaworski, Bernard J., & Ajay K. Kohli. (1993). Market Orientation: Antecedents and Consequences. *Journal of Marketing*, 57, 53-70. <http://dx.doi.org/10.2307/1251854>
- Kaplan, Robert S. David, & P. Norton (1996). Using the Balanced Scorecard as a Strategic Management System. *Harvard Business Review*, January-February, 75-85.
- Kirca, Ahmet H, Satish Jayachandran, & William O. Bearden. (2005). Market Orientation: A Meta-Analytic Review and Assessment of Its Antecedents and Impact on Performance. *Journal of Marketing*, 69(2), 24-41. <http://dx.doi.org/10.1509/jmkg.69.2.24.60761>
- Kohli, A. K., & B. J. Jaworski (1990). Market Orientation: the Construct, Research Propositions, and Managerial Implications. *Journal of Marketing*, 54 (April), 1-18. <http://dx.doi.org/10.2307/1251866>
- Lukas, Bryan A., & O. C. Ferrell (2000). The Effect of Market Orientation on Product Innovation. *Journal of the Academy of Marketing Science*, 28(2), 239-247. <http://dx.doi.org/10.1177/0092070300282005>
- Mahmoud, Mohammed Abdulai. (2011). Market Orientation and Business Performance among SMEs in Ghana, *International Business Research*, 4(1), 241-251.
- Moore, Marguerite, & Ann Fairhurst. (2003). Marketing Capabilities and Firm Performance in Fashion Marketing. *Journal of Fashion Marketing and Management*, 7(4), 386-397. <http://dx.doi.org/10.1108/13612020310496976>
- Morgan, Neil A., Bruce H. Clark, & Richard A. Gooner. (2002). Marketing Productivity, Marketing Audits, and Systems for Marketing Performance Assessment: Integrating Multiple Perspectives. *Journal of Business Research*, 55(5), 363-375. [http://dx.doi.org/10.1016/S0148-2963\(00\)00162-4](http://dx.doi.org/10.1016/S0148-2963(00)00162-4)
- Morgan, Neil A., D. W. Vorhies, & Charlotte H. Mason (2009). Market Orientation, Marketing Capabilities, and Firm Performance. *Strategic Management Journal*, 30(8), 909-920. <http://dx.doi.org/10.1002/smj.764>
- Naman John L., & Slevin Dennis P. (1993). Entrepreneurship and the Concept of Fit: A Model and Empirical Tests. *Strategic Management Journal*, 14(2), 137-153. <http://dx.doi.org/10.1002/smj.4250140205>
- Narver, John C., & Stanley F. Slater. (1990). The Effect of a Market Orientation on Business Profitability. *Journal of Marketing*, 54 (October), 20-35. <http://dx.doi.org/10.2307/1251757>
- Nobel, C. H., R. K. Sinha, & A. Kumar. (2002). Market Orientation and Alternative Strategic Orientations: A Longitudinal Assessments of Performance Implications. *Journal of Marketing*, 66(4), 25-39. <http://dx.doi.org/10.1509/jmkg.66.4.25.18513>
- Nunnally, J. C. (1978). *Psychometric Theory*. New York: McGraw Hill.
- O’Cass, Aron, & Jay Weerawardena. (2010). The Effects of Perceived Industry Competitive Intensity and Marketing-related Capabilities: Drivers of Superior Brand Performance. *Industrial Marketing Management*, 39(4), 571-581. <http://dx.doi.org/10.1016/j.indmarman.2009.04.002>
- Podsakoff, Philip M., S. B. MacKenzie, J. Lee, & N. P. Podsakoff. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, 88(5), 879-903. <http://dx.doi.org/10.1037/0021-9010.88.5.879>
- Pelham, A. M. (1997). Market Orientation and Performance: the Moderating Effects of Product and Customer Differentiation. *Journal of Business & Industrial Marketing*, 12(5), 276-296. <http://dx.doi.org/10.1108/08858629710183257>

- Porter, M. E. (1985). *Competitive Advantage*. Free Press, New York.
- Ruekert, R. W. (1992). Developing a Market Orientation: An Organizational Strategy Perspective. *International Journal of Research in Marketing*, 9, 225–245. [http://dx.doi.org/10.1016/0167-8116\(92\)90019-H](http://dx.doi.org/10.1016/0167-8116(92)90019-H)
- Ruekert R. W., Walker O. C., & Roering K. J. (1985). The Organization of Marketing Activities: A Contingency Theory of Structure and Performance. *Journal of Marketing*, 49 (Winter), 13–25. <http://dx.doi.org/10.2307/1251172>
- Sohyoun Shin, Sungho Lee, & Seoil Cha. (2009). The Roles of Learning Orientation and Market Orientation in Driving Marketing Capabilities and Firm Performance. *2009 Korean Academy of Marketing Science Spring International Conference and Fashion Marketing Symposium*.
- Siguaw, J. A., Simpson, P. M., & Baker, T. L. (1998). Effect of Supplier Market Orientation on Distributor Market Orientation and the Cannel Relationship: The Distributor Perspective. *Journal of Marketing*, 62(3), 99-111. <http://dx.doi.org/10.2307/1251746>
- Slater, Stanley F., & John C. Narver. (1994). Does Competitive Environment Moderate the Market Orientation–Performance Relationship? *Journal of Marketing*, 58(1), 46– 55. <http://dx.doi.org/10.2307/1252250>
- Slater, Stanley F., & John C. Narver. (2000). The Positive Effect of a Market Orientation on Business Profitability: A Balanced Replication. *Journal of Business Research*, 48, 69–73. [http://dx.doi.org/10.1016/S0148-2963\(98\)00077-0](http://dx.doi.org/10.1016/S0148-2963(98)00077-0)
- Tsai, M., & Shih, C. (2004). The impact of Marketing Knowledge among Managers on Marketing Capabilities and Business Performance. *International Journal of Management*, 21(4), 524-530.
- Vorhies, Douglas W., & Neil A. Morgan. (2003). A Configuration Theory Assessment of Marketing Organization Fit with Business Strategy and Its Relationship with Marketing Performance. *Journal of Marketing*, 67(1), 100-115. <http://dx.doi.org/10.1509/jmkg.67.1.100.18588>
- Vorhies, Douglas W., & Neil A. Morgan. (2005). Benchmarking Marketing Capabilities for Sustainable Competitive Advantage. *Journal of Marketing*, 69(1), 80-94. <http://dx.doi.org/10.1509/jmkg.69.1.80.55505>
- Weerawardena, Jay. (2003). The Role of Marketing Capability in Innovation-based Competitive Strategy. *Journal of Strategic Marketing*, 11, 15-35. <http://dx.doi.org/10.1080/0965254032000096766>
- Wei, Yinghong, & Neil A. Morgan. (2004). Supportiveness of Organizational Climate, Market Orientation, and New Product Performance in Chinese Firms. *Journal of Product Innovation Management*, 21, 375–388. <http://dx.doi.org/10.1111/j.0737-6782.2004.00092.x>
- Zhou, Kevin Zheng, & Caroline Bingxin Li. (2010). How Strategic Orientations Influence the Building of Dynamic Capability in Emerging Economies. *Journal of Business Research*, 63(3), 224-231. <http://dx.doi.org/10.1016/j.jbusres.2009.03.003>
- Zhou, Kevin Zheng, ulie Juan Le, Nan Zhou, & henting Su. (2008). Market Orientation, Job Satisfaction, Product Quality, and Firm Performance Evidence from China. *Strategic Management Journal*, 29, 985–1000. <http://dx.doi.org/10.1002/smj.700>



Table 1. Demographic Characteristics of the Sample

Items		Frequency	Percentage (%)
Function	Marketing	47	16.5
	Sales	52	18.2
	Strategy/Business Planning	48	16.8
	R&D	50	17.5
	General Management	26	9.1
	Others	62	21.75
	Total	285	100.0
Title	Vice President/Director	3	1.1
	General Manager	41	14.4
	Manager/Assistant Manager	131	46.0
	Senior Staff	106	37.2
	Missing	4	1.4
	Total	285	100.0
Type of Firm Business	Manufacturing	107	37.5
	Service	104	36.5
	Others	74	26.0
	Total	285	100.0
Working Year	Mean (Std. Deviation)	6.36 (4.89)	
Firm Age	Mean (Std. Deviation)	27.01 (19.25)	
Firm Sales	Mean (Std. Deviation)	90289091 (693149.54)	
Firm Size (or Unit Size)	Mean (Std. Deviation)	8052.11 (22811.80)	

Table 2. Confirmatory Factor Analysis (CFA) Results

	Measures	1	2	3	4	5	6	7	8	9	10	11
Customer Orientation	CO1	.88										
	CO2	.89										
	CO3	.81										
	CO4	.73										
Competitor Orientation	PO1		.65									
	PO2		.86									
	PO3		.71									
	PO4		.75									
Interfunctional Coordination	ItF1			.82								
	ItF2			.89								
	ItF3			.85								
	ItF4			.80								
Product Capability	PC1				.83							
	PC2				.70							
	PC3				.75							
	PC4				.77							
Communication Capability	CoC1					.88						
	CoC2					.89						
	CoC3					.86						
	CoC4					.79						
	CoC5					.80						
Channel Capability	ChC1						.77					
	ChC2						.83					
	ChC3						.90					
	ChC4						.87					
	ChC5						.79					
Pricing Capability	PC1							.87				
	PC2							.85				
	PC3							.84				
	PC4							.84				
	PC5							.77				
Customer Satisfaction	CS1								.92			
	CS2								.94			
	CS3								.89			
	CS4								.74			
Market Effectiveness	ME1									.88		
	ME2									.95		
	ME3									.85		
	ME4									.74		
Adaptability	AP1										.88	
	AP2										.89	
	AP3										.89	
Profitability	P1											.90
	P2											.90
	P3											.89
Cronbach's Alpha		.90	.83	.91	.85	.93	.92	.92	.94	.91	.91	.93
Mean		5.61	4.93	4.55	4.91	4.51	4.85	4.85	4.97	4.68	4.49	4.68
Standard deviation		1.16	1.21	1.12	1.16	1.31	1.11	1.85	1.24	1.24	1.34	1.38

Table 3. Regression Test Results for Marketing Mix Capability

	Product Capability	Communication Capability	Channel Capability	Pricing Capability
<b>Control Variables</b>				
Ln Firm Age	-.002(ns)	-.070(ns)	.021(ns)	-.048(ns)
Ln Firm Size	.025(ns)	.154**	.082(ns)	.120**
Manufacturing	.013(ns)	.075(ns)	-.036(ns)	.127**
Service	-.051(ns)	-.009(ns)	-.020(ns)	-.018(ns)
<b>Independent Variables</b>				
Customer Orientation	.367***	.314***	.127***	.214***
Competitor Orientation	.355***	.276***	.329***	.338***
Interfunctional Coordination	.110**	.199***	.230***	.125**
R square (Adj. R square)	.482 (.469)	.477 (.463)	.356 (.339)	.374 (.359)
F	36.892	36.023	21.827	23.678
Sig.	.000	.000	.000	.000

\*\*\*p<.01, \*\*p<.05, \*p<.10, ns= not significant

Table 4. Regression Test Results for Firm Performance

	Customer Satisfaction	Market Effectiveness	Adaptability	Profitability
<b>Control Variables</b>				
Ln Firm Age	.042(ns)	.004(ns)	-.015(ns)	.053(ns)
Ln Firm Size	-.048(ns)	-.083(ns)	.015(ns)	.019(ns)
Manufacturing	-.032(ns)	-.058(ns)	.023(ns)	-.068(ns)
Service	.097*	.067(ns)	.077(ns)	.003(ns)
<b>Independent Variables</b>				
Customer Orientation	.122**	-.058(ns)	-.046(ns)	-.102(ns)
Competitor Orientation	-.120**	-.056(ns)	.075(ns)	.105(ns)
Interfunctional Coordination	.117**	.090(ns)	.009(ns)	.053(ns)
Product Capability	.287***	.329***	.442***	.226**
Communication Capability	.408***	.377***	.352***	.399***
Channel Capability	-.094(ns)	-.032(ns)	-.078(ns)	-.144**
Pricing Capability	.104*	.068(ns)	.053(ns)	.005(ns)
R square (Adj. R square)	.548 (.530)	.426 (.402)	.574 (.557)	.336 (.309)
F	30.149	18.387	33.483	12.565
Sig.	.000	.000	.000	.000

\*\*\*p<.01, \*\*p<.05, \*p<.10, ns= not significant

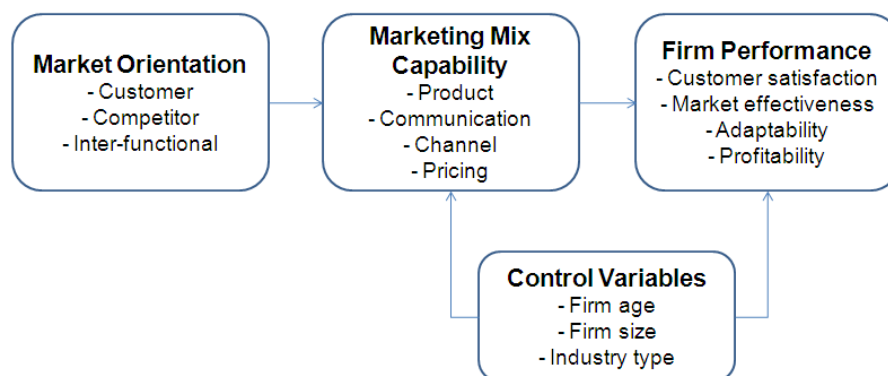


Figure 1. Research Model

# Perceived Performance in the French Tour Operating Industry

Raphaël Dornier (Corresponding author)

22 Bd du Fort de Vaux, Paris 75017, France

Tel: 33-1-4053-9999 E-mail: rdornier@groupeisc.com

Noureddine Selmi

Groupe Sup de Co La Rochelle, France

102 Rue de Coureilles, Les Minimes, La Rochelle 17024, France

Tel: 33-5-4651-7700 E-mail: selmin@esc-larochelle.fr

Received: February 24, 2011

Accepted: September 24, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p34

URL: <http://dx.doi.org/10.5539/ibr.v5n1p34>

## Abstract

How to define firm performance? The question is of importance since no extensional definition in the field of management is identified. The concept of performance thus appears all at the same time complex and multiform, whose measurement is always imperfect. Moreover, far from being comprehended only in a rational way by completely informed actors acting on a market, the performance appreciation by the public is a social one, resulting mainly from mimetic behaviours (Messonnet, 1999). In the field of services, the difficulties related to performance measurement are even more significant. Taking roots on a cognitive approach to strategy and competitive analysis, the objective of our study is thus to describe how top managers working in the tour-operating field perceive performance. Our results show that perceived performance is greatly heterogeneous, top managers using many different criteria to describe tour operators performance.

**Keywords:** Performance, Cognitions, Tour-operators

## 1. Performance: Determining Factors and Measurements

### 1.1 Determining Factors of Organisational Performance

Many authors (e.g. Lenz, 1981, Hansen & Wernerfelt, 1989) identify three types of determining factors of company performance: environmental, organizational and human ones.

#### 1.1.1 Environmental Determining Factors

The characteristics of the industry in which operates a company can explain its performance. The nature of competitive systems thus determines the way in which performance can be achieved, taking into account the models of competition (Hax & Majluf, 1983). Concentrated systems promote a logic of volume and experience effects. Fragmented systems leave room to multiple opportunities for differentiation without size being a decisive argument. Specialized systems, where coexist firms focusing on volume and others exploiting differentiation effects (automobile, clock industry), allow mixings of the two preceding strategies. Systems in competitive dead end are essentially the sectors where, maybe temporarily, performance is impossible to reach due to the absence of experience effects or of differentiation possibilities.

Barabel (1999: 127), analysing the studies of Vernon (1972), Child (1974), Hatten and Schendel (1977), Dess and Beard (1984), Schmalensee (1985), Rumelt (1991), Kotha and Nair (1995) and Powell (1996) identifies seven environmental factors mentioned by the authors as being able to explain part of the companies performance:

- The industry annual growth level (recession, stability, growth).
- The concentration degree of the industry.
- The capital-intensity.
- The advertisement intensity (the amount of advertisement budget compared with the turnover).
- The average profit of the industry, the profitability ratio of the industry (ROA, ROE).
- The technological change, the investment in R and D (compared with the turnover).

- The “munificence” degree of the industry (environment capacity to support all the companies in an industry). Hansen and Wernerfelt (1989), Rumelt (1991) and Powell (1996), for their part, empirically observe that the belonging to an industry explain on average 17 % to 20 % of the financial performances variations.

#### 1.1.2 Organisational Determining Factors

From the analysis of the literature Barabel (1999) identifies seven characteristics supposed to influence organisational performance, structure and strategy being by far the most mentioned factors:

- Organisational structure (Lawrence & Lorsh, 1967; Chandler, 1972; Child, 1974, 1977; Williamson, 1975; Lenz, 1981).
- Company strategy (Rumelt, 1974; Miles & Snow, 1978, Wissema & al., 1980; Porter, 1980; Dess & Davis, 1984; White, 1986; Gupta, 1988).
- Competitive position of the company in its sector, evaluated by its relative market share (Karnani, 1984; Hansen & Wernerfelt, 1989; Kotha & Nair, 1995).
- Company size (Rumelt, 1982).
- Company culture (Hofstede, 1991).
- Company history (Hansen & Wernerfelt, 1989).
- Capital structure (Changanti & Damanpour, 1991).

According to Hansen and Wernerfelt (1989: 407), organisational factors explain 38 % of organisational performance.

#### 1.1.3 Human Determining Factors

Two types of human elements are considered by the literature being able to influence company performance: the chairman and the management team as a whole. As for the environmental and organisational determining factors, empirical research is contrasted and there is no consensus to indicate if such characteristics of the chairman influence positively or negatively company performance. The contribution of the chairman to organisational performances is thus extremely variable. It is evaluated according to studies between 9 % and 40 %.

### 1.2 Measurements of Organizational Performance

According to Lebas (1995), performance exists only if one can measure it, that is to say if one can describe it by more or less complex indicators. Three main methods were used by scholars to evaluate organisational performance:

- The most usual ones are those which exclusively use financial criteria in the short run or in the short and long term.
- Those which use at the same time financial and qualitative criteria (strategic, marketing or social).
- Those which take into account the specificities of the company industry field (criteria related to industry from the point of view of comparative evaluation).

#### 1.2.1 Financial and Stock Exchange Criteria

The quantitative measurement of economic performance very often remains the main element which guides company evaluation (Messonnet, 1999).

Historically, evaluation methods of organisational performances were built around the financial criteria and especially around short term indicators like annual turnover or profit. However, some authors underlined the need for using financial criteria in the long run. Thus, according to Dearden (1987: 88) “the evaluation supposes an observation of performance over a period exceeding one year”. Moreover, Dearden (1987: 84) formulates severe criticisms by considering that the financial criteria are obsolete as they were generally developed in the twenties by Dupont de Nemours and General Motors and that they are not able any more to account for the complex situations faced by companies. In spite of these criticisms, the financial criteria in the short run continue to be used by firms and their various actors (investors, journalists, shareholders). Indeed, these data present also some advantages corresponding in particular to the principles stated by Rock (1984): they are easily measurable, communicable and comparable. Moreover, these data testify to the company capacity to adapt to its immediate environment. They must thus be retained in any evaluation method (Barabel, 1999).

There is no consensus in the literature regarding the criteria to select nor the number of criteria to retain. Weiner and Mahoney (1981), Chakravarthy (1986) and Doyle (1994) estimate that an appraiser must use several criteria to measure the company performance, in order to take account of the plurality of the objectives. On the contrary, Daft

and al. (1988), Hansen and Wernerfelt (1989), Zajak (1990) and Tushman and Rosenkopf (1996) use only one criterion in their empirical research.

Profitability ratios are nevertheless in the literature the most frequent ones. Lenz (1981) and Doyle (1994: 39) consider that “profitability is, by far, the objective and the measurement of performance most used in Western companies”. Venkatraman and Ramanujam (1986), for their part, recommend to use 4 financial criteria to measure firm performance:

- The ROA: the return on assets is the relationship between the net income and the assets of the company.
- The ROE: the return on equity capital or the financial profitability ratio is the relationship between the net income and the capital funded by the shareholders
- The ROS: the return on sales is the relationship between the net income and the sales turnover.
- The ROI: the return on investment is the relationship between the investment costs and the profits it generated.

According to the authors, these ratios are very interesting as they neutralize the size effect by connecting the firm results with its size and means. They thus make it possible to compare any companies in an equitable way. Many authors used these criteria: Haleblan and Finkestein (1993) used the ROA, the ROS and the ROE whereas Daily and Johnson (1997) preferred to use the ROE and the ROI. Some authors like Daft and all. (1988) retained one performance criterion: the average ROA over 3 years.

Nevertheless, Rock (1984) considers that “profitability” and “return on equity capital” are not very reliable. As he notes it, profitability ratios are largely used as they are easier to measure. On the other hand, he considers their interest limited. In the same way, Chakravarthy (1986) shows that profitability measurements (ROI, ROS) do not make it possible to distinguish high or low performing companies. They indeed strongly vary over years. Even the average results over three years is not systematically significant if an accident of importance occurred during this period. Moreover, following the statements of McGuire and Schneeweis (1983), Chakravarthy (1986: 442-443) identified the shortfalls involved in these criteria:

- Possibilities of earnings manipulation.
- Under valuation of assets.
- Deformations due to the policies of depreciation, the evaluation of the inventory and the treatment of certain incomes and expenditure.
- Differences between companies due to the consolidation methods of the accounts.
- Differences due to the weak standardization of international accountancy conventions.

The authors who criticize the use of financial criteria often propose as an alternative to use the shareholders wealth. Nevertheless, these criteria exclusively relate to the companies listed on the stock market, which consequently poses a problem of comparison with companies whose shareholding is family or in the case of subsidiaries exclusively controlled by a group (Barabel, 1999).

As the whole of these financial data can be the subject of manipulations, certain authors consequently recommend to resort to other complementary performance criteria. Venkatraman and Ramanujam (1986: 803) argue that the three dimensions of firm performance are:

- The financial performance: it includes criteria such as sales turnover growth, profitability (return on investment, return on sales, return on equity capital), profit by shares, but also criteria such as the market value of the company or the cost of assets replacement.
- The economic performance: it includes mainly marketing measurements like market shares, new products introduction, products quality or marketing effectiveness.
- The organisational effectiveness: it includes internal criteria which make it possible to have an overall picture of organisational performance.

Norburn and Birley (1988), as for them, propose to mix financial and marketing measurements. Similarly, Woo and Willard (1983) integrate the market share into their evaluation method.

### 1.2.2 Qualitative Criteria

The use of non-financial measurements to evaluate performance is increasingly frequent. We could classify these criteria in three categories (Barabel, 1999): commercial and marketing criteria, social criteria and strategic criteria.

The market share and especially its annual variation is a criterion often mentioned by scholars to measure performance. It measures the company relative position in its industry field. This model in particular largely prevailed in the seventies as the nearly unique source of performance: it was necessary to be large to be competitive (Messonnet, 1999). Nevertheless, some authors also recommend the use of more qualitative criteria than the market share. For example, Mack (1992) considers that one of the key factors of organisational performance is measured through “the quality perceived by the customer” rather than through “the quality of the product judged by its producer”. The quality of products and services thus appears, according to several authors like Stolowy (1983), to be one of the most significant criteria to evaluate an organization. Moreover, the firm public image or the satisfaction degree of the customers are also mentioned by many authors.

Except with the criteria of productivity, human dimension was often forgotten or minimized by numerous scholars. However, it has its place in an organisational performance evaluation mainly as it represents a guarantee for the future firm performance (Barabel, 1999). As Mack (1992) points out: “the managerial approaches which focus only on results are risky as they are limited to a short-term prospect, especially in an evolutionary environment. One can easily imagine results keeping on increasing while competences stock or staff motivation are declining, which is likely to compromise future results”.

Thus some authors recommend to study the “employees’ satisfaction” by using indicators like the turn-over rate, the strikes and their evolution, the absenteeism, the motivations of the subordinates and obviously their productivity. The main problem of these measurements lies nevertheless in the difficulty to collect them by an empirical investigation because of their confidentiality (Barabel, 1999).

Criteria such as “the positioning of products portfolio” (BCG matrix of the Boston Consulting Group, 1980), “the study of the forces and weaknesses of the company according to the key success factors of its industry” (Ansoff, 1979; Porter, 1980) seem necessary to pass a judgement on firm performance. However, if the strategic criteria are so little studied by the authors, it could be due to the fact that the collection of information proves to be a very heavy and often delicate work (Barabel, 1999). Three main strategic criteria are mentioned in the literature: the firm potentiality within 3-5 years, the strategic positioning quality and the firm public image.

According to Porter (1980), firm economic performance is the creation and preservation of a competitive advantage. Duration thus constitutes an essential aspect of performance. Longevity is indeed not acquired since in France for instance half of the companies disappear in the first 5 years of their existence (Bizaguet, 1993), and the three quarters do not survive the first succession. The study carried out under the direction of Marseille (1995) on the companies performance during the 20th century highlights the factors which made it possible to some companies to better pass through the crises than others. One finds there for example brand development, longevity of managing staff or flexibility.

### 1.2.3 Methods Related to The Firm Activity

The methods presented until now do not take account of the specificities of the environment in which the firms operate. However, the fact of belonging to an organizational field has two major effects.

- Certain criteria of evaluation become more relevant than others according to the company organizational field.
- The industry characteristics make it possible to build standards of performance and to consider in a comparative way the results of the firms.

Thus, according to the industry field, specific criteria appear. For example, product cost can be a determining factor in sectors where product price is of primary importance. According to Schneier and al. (1991), performance indicators must thus be selected according to the key success factors of the industry in which the company operates. Johnson and al. (1993) propose to consider organisational performance according to its context. According to some authors (Meindl & al., 1985; Morck & al., 1989; Cannella & Lubatkin, 1993), it is interesting to compare the company result with the average result of the industry field. It is thus possible to identify in the literature two types of comparative studies (Barabel, 1999).

- The measurements obtained by comparing to those of the competitors.
- The measurements obtained by comparing to the state and structure of the industry field.

Comparative study is relatively common. According to Lebas (1995), performance is to do better than “the competitor” on the medium and long term, in the ideal on the whole of the parameters defining performance, and at least on those parameters judged to be most significant for customer’s satisfaction. Woo and Willard (1983), for example, proposed to compare four criteria with the direct or most dangerous competitors of the firm. These criteria are product quality, new products launching, direct cost and R & D expenditure.

As the competitive analysis models which flowered since the eighties testify, firm performance also results from its integration in an environment which is to be understood. The models aimed at evaluating competitive positions thus strongly called into question the uniqueness of the performance measurement by the market share, was it relative. Competitive performance holds multiple forms and gives to firms a margin of freedom which was not conferred by the domination logic. As Chakravarthy (1986) points out, “the structure of the industry in which a company operates partly constrains its strategy and affects its performance”. Thus, in certain cases, a reduction in market shares or profits is better explained by one change in the industry (new entering, fusion between two competitors, bankruptcy of an operator) than by a wrong strategic choice. In economics, some authors then mention results “carried by the market” (the environment is responsible) and “aggressive” results carried out to the detriment of competitors (the company and its top-managers are responsible). Stonich (1984) proposes a method taking into account the situation of the industry where the company operates. He selected four criteria: profitability (ROA), cash-flow, market share variation and a criterion specific to the industry field. Thus, in a market with strong growth, the market share increase is determining whereas in a market with moderate growth the ROA is essential.

After reviewing the different approaches to performance by considering the point of view of the scholars, we could now wonder about the performance perception of top managers working in a same organizational field. It would thus be possible to determine which kind of performance criteria these managers tend to use to characterize the performance of their competitors and whether these managers tend to have an homogeneous approach to performance. To meet this aim we will first present our empirical field, relatively disregarded by French researchers in strategic management: the tour-operating industry.

## **2. Methodology**

### *2.1 The French Tour-Operating Industry*

#### *2.1.1 A general presentation*

The French tour-operating industry seems to exhibit two main characteristics: its atomicity, with nearly 535 organizations, and its weak average profitability, a situation which favours acquisitions and mergers led mostly by English and German tour-operators. The tour-operator, which production is generally marketed through travel agencies, is the emblematic actor of this sector, as its main activity is precisely to combine the different elements making up packaged or inclusive tours. Its position is therefore at the heart of the tourism field, as it is linked both with actors located upstream like hotels and airways companies and actors located downstream like travel agencies or end customers. During the last thirty years, two companies have overshadowed the French tour-operating industry by their seniority, reputation and size: Nouvelles Frontières and The Club Méditerranée. Besides these two main historic figures of French tourism coexist many small tour-operators specializing more or less on activities like trekking, on travel destinations like Turkey or on customers like seniors.

#### *2.1.2 New Actors*

Since 2000, three main kinds of actors have intensified their presence on the French tour-operating market. The first actor type is made of foreign tour-operators, mostly German and English ones. These tour-operators, due in particular to the specificity of their respective domestic markets, enjoy a size well superior to the one of the first French tour-operators. TUI's turnover, for instance, which is the leading tour-operator on the German and European market, is thus six times bigger than the one of Nouvelles Frontières. It is nevertheless to be noticed that the penetration of foreign tour-operators on the French market is mainly limited to taking stakes in French companies, sometimes majority ones, but they do not actually endanger domestic tour-operators' identity, as these latter ones retain their brands and production specificity. The second actor category consists in organizations which specialized on travel sales on line. These companies, like for instance Karavel or Lastminute.com, focused their strategy mostly on the Internet media and penetrated the travel market by this means. If their original activity was the distribution via internet of plane tickets or packaged trips designed by tour-operators, mostly in the case of last minute sales, some of them attempt to develop their own tour-operating activity by directly negotiating with contractors located upstream the tourism field like airways companies or hotel networks. Lastly, the third type of actors consists in mass merchandisers like Leclerc or Carrefour. These large-scale distribution actors, which originally did not offer packaged tours, turned to this products range at the beginning of the nineties and since then kept on developing this activity. Some analysts thus consider that large-scale distribution could represent nearly 30 % of the total travel sales on the French market by the year 2005 (Secrétariat d'Etat Français au Tourisme, 2002).

### *2.2 Sample*

We interviewed in 2002 80 top managers working in 80 tour-operators located on the French market.



### 2.3 Interview Guide

Interviews were generally carried out in the office of the top manager, with an average duration of 20 minutes. The two questions relative to perceived performance were the following ones:

- Do some tour-operators located on the French market appear to you particularly performing and if so which ones?
- For which reasons do you regard these tour-operators as particularly performing?

It should be noted that the question relating to performance characterization was asked as soon as a tour-operator was mentioned. Each top manager thus had the possibility of resorting to different performance criteria for each tour-operator he mentioned. He also had the possibility of enumerating various criteria to characterize the performance of a same tour-operator. In the case of a silence which could mean that the top manager interviewed had mentioned all the criteria he perceived as relevant to characterize the performance of the tour-operator he mentioned, we then asked the following question:

- Are there other reasons why you consider that the tour-operator you mentioned is particularly performing?

In the case of a silence which could mean that the top manager had mentioned the whole of the tour-operators he regarded as particularly performing, we asked then the following question:

- Do other tour-operators appear to you also particularly performing and if so which ones and for which reasons?

All interviews were entirely retranscribed and then a content analysis was led.

## 3. Results

### 3.1 The Performance Perceived by Tour-Operators' Top Managers

#### 3.1.1 Two Great Types of Performance Apprehension

Concerning the articulation of the speeches on performance, we can distinguish two great types of perceptions : whereas certain top managers preferred to state the dimensions of the performance that they give more importance to, while mentioning afterwards the companies they regard as presenting a favourable profile on these criteria, others on the contrary spontaneously identified companies which according to them “ represent ” performance, for then enumerating strategic dimensions justifying their choices. This first type of performance perception can appear surprising insofar as the sequence of our questions very clearly tended to call answers based initially on the quotation of tour-operators regarded as performing before identifying the components of their performance. Two extreme cases of performance perceptions thus appeared:

- Some top managers seemed to have a performance perception strongly embodied in one or more companies. As the tour-operators mentioned were like synonyms of performance, the top managers in such cases were reticent to reveal precise components of this performance. The comments collected were then of this type: “the tour-operators X is performing because it is very good”.
- Other top managers on the contrary seemed to have a perception of performance embodied in the dimensions of this performance. Thus, in certain cases, these top managers formulated the performance criteria they privileged, for then estimating that no tour-operator was performing on these criteria. The remarks collected were then of this type: “For me performance is clearly profitability; however, on this criterion, no tour-operator on the French market is good”.

Taking into account these two alternative modes of performance apprehension, we could distinguish between the 80 top managers interviewed:

- 57 top managers spontaneously quoted at least one tour-operator they consider particularly performing, before revealing or not precise strategic dimensions which they regarded as explaining this perceived performance (that is 72 % of our sample).
- 22 top managers spontaneously initially mentioned strategic dimensions which they regarded as being constitutive of the performance of tour-operators, before naming the tour-operators positioned particularly well on each one of these dimensions (that is 28 % of our sample).
- One top manager had an answer to this question about perceived performance which we describe as “unclassifiable”. He has indeed not revealed which were the dimensions of performance he gave more importance to, and estimated that no tour-operator on the French market was particularly performing. Its answer was the following one: “No, there is no tour-operator which appears to me to be performing or very performing or, in any case, which would stand out. No. Performing? There is nothing which impresses me”.

### 3.1.2 The Tour-Operators Most Mentioned by Top Managers

The 80 top managers interviewed mentioned on average, and that after eliminating the cases when they named their own companies, 2,9 tour-operators as being particularly performing. On the whole, 77 tour-operators were identified at least once as particularly performing. If we eliminate the cases when the top managers mentioned their own company, the head office of their company or a subsidiary of their company, 69 tour-operators were mentioned at least once. That thus means that 8 tour-operators were mentioned only once as particularly performing and by a top manager working within or linked with them. 15 top managers named their own company as being particularly performing. It is also interesting to point out that among these 69 tour-operators named at least once as particularly performing by top managers from different organizations, 44 were mentioned only once. Therefore, only 25 tour-operators were identified at least twice as particularly performing by top managers from other tour-operators.

Although our question focused on the identity of the tour-operators perceived as particularly performing, seven categories of tour-operators were also mentioned, in addition to the naming of one or more tour-operators. In one case, the category mentioned corresponded to the category of membership of the tour-operator whose top manager was questioned. If we eliminate this category, the six categories of tour-operators which were mentioned are as follows: luxury trips specialists, group trips specialists, trekking specialists, the tour-operators leaders on their niches, diving specialists, cruise specialists.

It is to be noticed that these categories correspond with the main category of the specialized tour-operators. Five of these six categories were mentioned only once, the cruise specialists category for its part was quoted two times. It should be noted also that a top manager mentioned only one category of tour-operators as being particularly performing, without naming tour-operators belonging or not to this category. This category was the “luxury trips specialists”.

If we now establish the prize list of the tour-operators which have been identified at least twice as particularly performing by top managers from different tour-operators, by establishing for each one of them its average row of appearance when it was named and the average number of tour-operators mentioned by the top managers naming it, we obtain the following table:

(Insert Table 1. here)

If we consider the 8 cases when the top managers identified only one tour-operator, other than their own company, as particularly performing, these quotations were the following ones:

- Fram: 4
- Voyageurs du Monde: 2
- Nouvelles Frontières: 1
- Ultramarina: 1

It is remarkable that Fram, which was identified by 35 top managers as being particularly performing, was named by 20 of them in first position. In all the cases, it clearly comes out from our results that two tour-operators are distinguished very clearly as regards perceived performance: Fram and Voyageurs du Monde. Moreover, it is to be stressed that as Terres d’Aventure belongs to the group Voyageurs du Monde, we could have considered the quotations of this tour-operator as referring to its mother group.

Nevertheless, the most striking feature in this prize list could be the absence of any organisation belonging to one of the three categories of newcomers (mass merchandisers, Internet pure players and foreign tour-operators) among the 25 tour-operators mentioned at least twice as particularly performing. The only organisation in this prize list which could be regarded as belonging partly to the Internet pure players is Go Voyages, which holds the 11<sup>th</sup> position. Go Voyages, indeed, while selling many packaged trips via Internet, has also its own physical travel agencies. In every case, this absence of newcomers seems amazing as these organizations are the ones which experienced the most important growth in tourism during these last 5 years.

Another striking feature is the high rank of Nouvelles Frontières, which comes in 4<sup>th</sup> position, whereas this organization exhibited very low profitability during the last years, to such an extent that it was in 2002 acquired by a German tour-operator. It seems in this case that top managers could be more sensitive to past performance than to current one.

### 3.1.3 Performance Indicators Perceived By Top Managers

Many indicators were mentioned by the top managers to justify the reasons why they regarded as performing the tour-operators they named. We classified these indicators in the 8 following categories:

- Financial profile
- Strategy
- Structure/Organisation
- Purchases
- Trips
- Communication
- Marketing
- Transverse performance

Each one of these performance great dimensions are made up of various criteria, each one consisting on a lower level in or more under-criteria corresponding closely with the comments of the top managers. We thus proceeded by successive regroupings of the remarks of top managers concerning the performance indicators they tended to mention, these regroupings being carried out on three levels, to lead finally to these 8 great dimensions of performance. Thus, for example, the two following remarks of two distinct top managers:

“Fram is nevertheless the tour-operator which earned the most money over the last years.” and “Go Voyages is a company which presents a serious financial health and profitability.”

They were respectively characterized by the following items “good profitability over the last years” and “good profitability”. These two items were then gathered within the criterion “Profitability”. As other criteria like “Profitability” and “Capital structure” also appeared, we gathered them in the category “Financial profile”. We estimated indeed that the whole of these criteria were similar as focusing on a financial dimension.

The composition of these 8 great dimensions is thus the following one, taking into account that each criterion of performance (such as for example “Capital structure”) was mentioned by at least 2 of the 80 top managers interviewed. These dimensions and the criteria composing each one of them are ranked by number of quotations. It is to be noticed that we do not take into account the comments of top managers characterizing the performance of their own company.

- Structure/Organisation (130)
- Performance as a whole: 17
- Brand Image: 17
- The organization as a whole: 16
- Top Management team skills: 14
- Whole staff skills: 13
- Philosophy: 13
- Performance on a market segment: 8
- Seniority: 8
- Dynamism: 7
- Links with partners located outside tourism: 4
- Potential: 4
- Productivity: 2
- Financial management: 2
- Adaptation to the environment: 2

This category is the most provided in term of the number of criteria composing it. We mainly gathered in this category the criteria which were difficult to associate with a particular part of the company. We also specify that remarks of the type “this company is performing”, but which did not give place to a deepening of the explanatory factors of this perceived performance, were gathered within this dimension. An example of a top manager comment corresponding to this category is the following one: “Gestair has the best productivity level in the industry”.

- Transverse performance (119)
- Trips / Marketing: 56

- Trips / Marketing / Communication: 20
- Marketing / Communication: 16
- Organisation-Structure / Trips: 7
- Organisation-Structure / Strategy: 6
- Strategy / Marketing: 4
- Organisation-Structure / Marketing: 2

This category “Transverse performance” gathers performance criteria corresponding to the simultaneous consideration of performance criteria belonging to two or three distinct categories. This category corresponds thus to a more “complex” conceptualization of performance, as it is perceived as resulting from the adequacy between two or three distinct organisational components. Whereas in the case of the category “Structure-Organisation” performance criteria were mostly diffuse and disseminated through the organization, this category “Transverse performance” groups together criteria clearly located. An example of a top manager comment corresponding to this category is the following one: “Voyageurs du Monde is performing because there is a coherence between its philosophy of the voyage (category “Structure-Organisation”) and its strategy (category “Strategy”)”.

- Marketing (75)
- Quality of the sales department as a whole: 12
- Marketing targeting: 11
- Links with travel agencies: 9
- Links with tour-operators distributing other tour-operators products: 8
- Sales volume: 8
- Pricing policy: 6
- Commercial power: 6
- Quality of own travel agencies: 6
- Personalization of the relation between the sales department and the customers: 5
- Distribution strategy: 2
- Marketing innovations: 2

This category “Marketing” gathers the performance criteria related mainly to the relations between the tour-operators and their market. An example of a top manager comment corresponding to this category is the following one: “Voyageurs du Monde is performing because it is available towards its customers”.

- Trips (60)
- Trip quality as a whole: 21
- Range of trips: 20
- Reliability of trips: 9
- Originality of trips: 7
- Richness of trips: 2

This category “Trips” gathers the performance criteria mainly relating to the trip contents and the range of trips proposed. An example of a top manager comment corresponding to this category is the following one: “Jet Tours is performing because it regularly renews its range of trips”.

- Strategy (53)
- Competitive Strategy: 28
- Growth Strategy: 25

This category “Strategy” gathers the performance criteria related to two main kinds of strategy characterization: the strategy of growth over many years (Growth strategy) and the strategy relating to competitive positioning (Competitive strategy). An example of a top manager comment corresponding to this category is the following one: “Voyageurs du Monde is performing because it has a good strategy of internationalisation”.

- Financial profile (37)

- Profitability: 27
- Capital structure: 10

This category “Financial profile” gathers the performance criteria related to financial variables. An example of a top manager comment corresponding to this category is as follows: “Fram is performing because it presented a good profitability during over these last years”.

- Communication (19)
- Presentation of trips: 13
- Communication as a whole: 4
- Advertising: 2

This category “Communication” gathers the criteria of performance related mainly to the way in which the tour-operators portray their trips. An example of a top manager comment corresponding to this category is the following one “Maison de la Chine is performing because its booklets are of good quality”.

- Purchases and travel assembly (16)
- Mastering of travel assembly: 7
- Mastering of all purchases: 3
- Terrestrial purchases: 3
- Relationships with other tour-operators for travel assembly: 2

This category “Purchases” gathers the performance criteria related to the production process of the tour-operators. An example of a top manager comment corresponding to this category is the following one “Terres d’Aventure is performing because it has good technical skills in terms of trip production”.

We can therefore obviously notice that top managers used a high variety of criteria to characterize the performance of the tour-operators they regarded as particularly performing. It is also to be stressed that in many cases they simultaneously used criteria belonging to distinct organisational spaces to define performance. It therefore confirms the statements of the scholars considering that using only one precise criterion is not satisfactory for measuring firm performance. Another interesting result is that the financial criteria, which are still used by many scholars and analysts as the best performance indicators, come only in sixth position regarding the number of quotations for each performance dimensions. As a top manager pointed out, performing companies can be identified on the base of non-economic factors: “when I mention these tour-operators it is certainly not the manager who speaks but the heart”.

Another striking point is the fact that innovation was very rarely mentioned by top managers as a factor explaining performance. The term innovation, without regard to its belonging category, was indeed used only three times, whereas we could have expected this factor to be prevalent in a very competitive organizational field where differentiation seems possible.

To complete these results concerning the diversity of tour-operators regarded as performing and the performance perceived indicators, it seems fruitful to list some comments of top managers concerning the intensity or level of performance. Indeed, whereas during our interviews we did not ask top managers to characterize the level of performance of the companies they perceived as particularly performing (we did indeed only consider a minimum level of performance, without asking for instance top managers to evaluate high performance on a scale), some of them did mention how high was the performance of some tour-operators. We will then be able to notice that the perceptions of top managers also vary regarding the performance level. Moreover, as a mean to fuel the discussion about our results, we will list some other comments able to highlight the way top managers do comprehend performance.

### *3.2 The Performance Perceived by Top Manager: Intensity and Other Points*

#### *3.2.1 On the Intensity of Perceived Performance*

While a top manager do not consider that any tour-operators could be regarded as particularly performing:

“No, there is no one which appears to me performing or super performing or, in any case, which is detached from... No. Performing? There is nothing which impresses me.”

A second top manager considers that some tour-operators exhibit a performance level really higher than the average performance level in the organizational field:

“Here are two or three tour-operators who are infinitely performing”

Another top manager is reluctant to isolate some tour-operators and on the contrary considers that they all achieve a minimum performance level:

“They all are performing. If not they would not be there. There is not today on the market a tour-operator which is a charlatan on that level. In those which I quoted there, there is not one which is a charlatan. Not one. They have all their defects and their qualities but, overall, they are all performing”.

A last one, sharing a close point of view, mentions a positive evolution of the whole sector towards performance:

“There are currently relatively less complaints than twenty years ago. When I started in tourism, it was not well structured, it was not well organized, the personnel that we had not well trained since many did not even have a formation in tourism. One started because he liked to do that and he was speaking a foreign language. But I think that, overall, tourism in France is organized, well structured and rather serious.”

### 3.2.2 On Perceived Performance: General Points

While a top manager for his part stresses that it is difficult for him to identify high performing companies as he mostly focuses on his small market:

“So maybe there are many performing tour-operators but to which I do not pay attention. I am a little too much in my small world.”

A second one considers that performance is difficult to comprehend as it consists in many distinct components :

“It is rather difficult to answer because that touches fields very, very varied, therefore”.

Another interesting issue which has been mentioned is the fragility of performance in this industry, mostly due to the importance of the human factor:

“Our trade is so related to men!”

Whereas some top managers consider that some companies could be regarded as highly performing in the whole industry (notion of inter-performance, or “absolute” performance), some others point out that performance can only be evaluated within a same strategic group or market space (notion of intra performance, or “relative” performance):

“In our niche, as it is very targeted, a firm which is not performing, on the base at least of a certain quality, it goes bankrupt immediately. To a certain extent, if Nouvelles Frontières is very bad on trekking, it is not a problem as 95 % of its turnover is ticketing or other things. If Terres d’Aventures is bad on trekking, it will not exist any more. Very quickly”.

“A general model of performance is Nouvelles Frontières. And a model of performance in our field of activity is Club Aventures.”

Another important issue which was raised is that performance indicators are not always visible:

“It is difficult to say. For us, the true performance is the loyalty of the customers. And on that point, one cannot get the knowledge. Among fellow-members, one cannot know what is the loyalty of the customers. It is that, for us, the true performance. It means that good job was made and that people appreciated, that one has very few dissatisfied customers. Therefore that is not measurable among fellow-members. Or with difficulty. One can have only echoes, etc. Therefore it is not reliable. Now, I do not know. For us, it is that, the true value.”

And that information on performance is not always close to reality:

“I know all my fellow-members and I know that there is not one of them who say the truth when he speaks about its performance. Therefore I do not take account all that is written”.

## 4. Contributions, Limits and Research Perspectives

### 4.1 Contributions

Our results tend to support the fact that in a same industry field top managers are far from basing systematically their performance evaluation on the only financial criteria, as the dimensions they use are quite diverse. We noticed also that most top managers tend to consider several variables simultaneously to evaluate the performance of their competitors. These results tend then to reinforce the scholars having stressed that it is necessary to consider simultaneously several qualitative variables to lead performance evaluations.

### 4.2 Limits

Our research suffers from some limits. We could have, for the comparison of the various perceptions relying on more rigorous bases, differentiated in our questions the measurement of performance from its determinants. It is

indeed very likely that while some top managers understood our question as referring to the measure of performance, others certainly interpreted it as referring to its determinants. Another limit arises from the fact that we did not distinguish the type of relation existing between the organization of the top managers interviewed and the tour-operators they mentioned as particularly performing. It is indeed possible in particular that the top managers tended to preferably identify organizations they know particularly well, because being for example their direct competitors or cooperating with them. Another significant limit comes from the fact that our sample was not homogeneous in term of top managers' functions. It is indeed likely that a marketing manager will tend to focus more on marketing variables to evaluate performance than a general manager for example. A last limit lies on the way we built our categories. Whereas one comment or idea was systematically assigned to one category and only one, some comments corresponded to two categories. Thus, our categories were not in certain cases exclusive enough. For instance, a comment like "they had a huge growth over the last years" could have been characterized as turnover growth" and then assigned to the category "financial profile", or as "growth strategy" and then assigned to the category "strategy". The category "Structure-Organization" could also seem too wide, and be considered more like a "garbage category" than to a meaningful one.

#### 4.3 Research Perspectives

Our study opens several perspectives. The first could be to try to link the perception of performance with performance. It would indeed be possible that the organizations whose top managers have a certain perception of performance are the most performing. It could also be promising to link the mode of environmental scanning and the perception of performance. It would thus be interesting to wonder about the role of this mode in the formation of the perceptions of performance. Another perspective would be to compare the vision of the performance that a top manager has of his own company, and the image that its competitors have of the performance of its company. It is indeed possible that a certain variation exists between the perception of oneself and the perception of the others of oneself. It would consequently be advisable to wonder about the explanatory factors of such a phenomenon, and to determine up to what point this could result from the will of the company to dissimulate to its competitors the true determinants of its performance. While we considered performance perceptions of top managers working in very different organisations, both in terms of size and specialization degree, it could be interesting to assess the perceptions homogeneity of top managers working in similar companies. An interesting point also would be to link perceived performance with reputation. As we can suspect that managers only mention as performing tour-operators they know, we could wonder to which extent a high performing company could remain ignored a long time by top managers. Another issue we did not consider is whether top managers develop their own personal approach to performance or whether they take for granted what they hear or read on performance from other sources. Taking into account the different ways top managers consider performance, we could also shape a typology of performance perceptions and determine to which extent each kind of perceptions correspond to the approach of particular scholars. A last perspective would be to compare the perception of the performance of top managers with those of experts, in order to observe some possible variations and to try to explain them.

#### References

- Ansoff, I. (1979). *Strategic Management*. MacMillan.
- Barabel, M. (1999). *Activités quotidiennes, caractéristiques et performances des PDG des grandes entreprises*. Thèse de doctorat de Sciences de Gestion, Université Paris Dauphine.
- Bizaguët, A. (1993). *Les petites et moyennes entreprises*. Collection que Sais-Je?, PUF.
- Cannella, A. A., & Lubatkin, M. (1993). Succession as a sociopolitical process: internal impediments to outsider selection, *Academy of Management Journal*, 36, 763-793. <http://dx.doi.org/10.2307/256758>
- Chaganti, R., & Damanpour, F. (1991). Institutional ownership, capital structure and firm performance. *Strategic Management Journal*, 12, 479-491. <http://dx.doi.org/10.1002/smj.4250120702>
- Chakravarthy, B. S. (1986). Measuring strategic performance. *Strategic Management Journal*, 7, 437-458. <http://dx.doi.org/10.1002/smj.4250070505>
- Chandler, A. D. (1972). *Stratégies et structures de l'entreprise*. Les Paris: Editions d'Organisation.
- Child, J. (1974). Managerial and organizational factors associated with company performance. *Journal of Management Studies*, 175-198. <http://dx.doi.org/10.1111/j.1467-6486.1974.tb00693.x>
- Child, J. (1977). Organizational Design and Performance: contingency theory and beyond. *Organization and Administrative Science*, 8(2-3), 169-183.

- Daft, R. L., Sormunen, J., & Park, D. (1988). Chief executive, scanning, environmental characteristics and company performance : an empirical study. *Strategic Management Journal*, 9, 123-139. <http://dx.doi.org/10.1002/smj.4250090204>
- Daily, C. M., & Johnson, J. L. (1997). Sources of CEO power and firm financial performance : a longitudinal assessment. *Journal of Management*, 23 (2), 97-117. [http://dx.doi.org/10.1016/S0149-2063\(97\)90039-8](http://dx.doi.org/10.1016/S0149-2063(97)90039-8)
- Dearden, J. (1987). Measuring profit center managers. *Harvard Business Review*, 84-88.
- Dess, G. G., & Davis, P. S. (1984). Porter's (1980) generic strategies as determinants of strategic group membership and organizational performance. *Academy of Management Journal*, 27, 467-488. <http://dx.doi.org/10.2307/256040>
- Dess, G. G., & Beard, D. W. (1984). Dimensions of Organizational Task Environments. *Administrative Science Quarterly*, 29 (1), 52-73. <http://dx.doi.org/10.2307/2393080>
- Doyle, P. (1994). Setting business objectives and measuring performance. *European Management Journal*, 20, 1-19. [http://dx.doi.org/10.1016/0263-2373\(94\)90002-7](http://dx.doi.org/10.1016/0263-2373(94)90002-7)
- Haleblian, J., & Finkelstein, S. (1993). Top management team size, CEO dominance and firm performance: the moderating roles of environmental turbulence and discretion. *Academy of Management Journal*, 36(4), 844-863. <http://dx.doi.org/10.2307/256761>
- Hansen, G. S., & Wernerfelt, B. (1989). Determinants of firm performance: the relative importance of Economic and Organizational factors. *Strategic Management Journal*. Sept-Oct., 399-411. <http://dx.doi.org/10.1002/smj.4250100502>
- Hatten, K. J., & Schendel, D. E. (1977). Heterogeneity within an industry: firm conduct in the U.S. brewing industry: 1952-71. *Journal of Industrial Economics*, 26 (2), 97-113. <http://dx.doi.org/10.2307/2097932>
- Hax, A. C., & Majluf, N. S. (1983). Organization Design: A case study on matching Strategy and Structure. *Journal of Business Strategy*, 4 (2), 72-86. <http://dx.doi.org/10.1108/eb039024>
- Hofstede, G. H. (1991). *Cultures and Organizations*. Mc-Graw Hill.
- Johnson, R. A. Hoskisson, R. E., & Hitt M. A. (1993). Board of director involvement in restructuring : the effects of board versus managerial control and characteristics. *Strategic Management Journal*, 14 (Special Issue), 33-50. <http://dx.doi.org/10.1002/smj.4250140905>
- Karnani, A. (1984). Generic competitive strategies: an analytical approach. *Strategic Management Journal*, 5 (4), 367-380. <http://dx.doi.org/10.1002/smj.4250050406>
- Kotha, K., & Nair, A. (1995). Strategy and Environment as determinants of performance. *Strategic Management Journal*, 16, 497-518. <http://dx.doi.org/10.1002/smj.4250160702>
- Lawrence, P. R., & Lorsh, J. W. (1967). *Organization and environment: managing differentiation and integration*. Harvard University.
- Lebas, M. (1995). Oui, il faut définir la performance. *Revue Française de Comptabilité*. juillet-Août, 269.
- Lenz, R. T. (1981). Determinants of organizational performance: an interdisciplinary review. *Strategic Management Journal*, 2, 131-154. <http://dx.doi.org/10.1002/smj.4250020204>
- MacGuire, J., & Schneeweis, T. (1983). An analysis of alternate measures of strategic performance. *Third annual conference of SMJ*. Paris.
- Mack, M. (1992). *L'impératif humain*. Masson.
- Marseille, J. (1995). *Les performances des organisations*. Le Monde Editions.
- Meindl, J. R., Ehrlich, S. B., & Dukerich, J. M. (1985). The romance of leadership. *Administrative Science Quarterly*, 30, 78-102. <http://dx.doi.org/10.2307/2392813>
- Messonnet, O. (1999). *La performance des entreprises : une approche par la théorie des conventions*. Université de Rouen : Thèse de doctorat de Sciences de Gestion.
- Miles, R. E., & Snow C. C. (1978). *Organizational strategy, structure and process*. N-Y: Mc Graw Hill.
- Morck, R., Shleifer, A., & Vishny, R. W. (1989). Alternative mechanisms for corporate control. *American Economics Review*, 19, 842-852.
- Norburn, D., & Birley, S. (1988). The top management team and corporate performance. *Strategic Management Journal*, 9, 225-237. <http://dx.doi.org/10.1002/smj.4250090303>



- Porter, M. E. (1980). *Competitive Strategy: techniques for analysing industries and competitors*. N-Y: Free Press.
- Powell, M. (1996). How much does industry matter? An alternative empirical test. *Strategic Management Journal*, 17 (4), 323-334. [http://dx.doi.org/10.1002/\(SICI\)1097-0266\(199604\)17:4<323::AID-SMJ803>3.3.CO;2-X](http://dx.doi.org/10.1002/(SICI)1097-0266(199604)17:4<323::AID-SMJ803>3.3.CO;2-X)
- Rock, R. H. (1984). Pay for performance: accent on standards and measures. *Compensation Review*, 15-23. <http://dx.doi.org/10.1177/088636878401600302>
- Rumelt, R. P. (1991). How much does industry matter?. *Strategic Management Journal*, March, 167-185. <http://dx.doi.org/10.1002/smj.4250120302>
- Rumelt, R. P. (1982). Diversification strategy and Profitability. *Strategic Management Journal*, (4), 359-369. <http://dx.doi.org/10.1002/smj.4250030407>
- Rumelt, R. P. (1974). *Strategy, structure and economic performance*. Cambridge MA: Harvard University Press.
- Schmalensee, R. (1985). Do markets differ much? *American Economic Review*, 75 (3), 341-351.
- Schneier, C. E., Shaw, D. G., & Beatty, R. W. (1991). Performance measurement and management: a tool for strategy execution. *Human Resource Management*, 3, 279-301. <http://dx.doi.org/10.1002/hrm.3930300302>
- Stolowy, H. (1983). Mesure de performance de magasins et de leurs dirigeants dans les groupes de distribution. *La revue du Financier*, 31-42.
- Stonich, P. J. (1984). The performance measurement and reward system: critical to strategic management. *Organizational Dynamics*, Winter, 45-57. [http://dx.doi.org/10.1016/0090-2616\(84\)90024-X](http://dx.doi.org/10.1016/0090-2616(84)90024-X)
- Tushman, M. L., & Rosenkopf, L. (1996). Executive succession, strategic reorientation and performance growth: A longitudinal study in the U.S. cement industry. *Management Science*, 42 (7), 939-953. <http://dx.doi.org/10.1287/mnsc.42.7.939>
- Venkatraman, N., & Ramanujam, V. (1986). Measurements of business performance in strategy research: a comparison of approaches. *Academy of Management Review*, 11 (4), 801-814. <http://dx.doi.org/10.2307/258398>
- Weiner, N., & Mahoney, T. A. (1981). A model of corporate performance as a function of environmental, organizational and leadership influences. *Academy of Management Journal*, 24 (3), 453-470. <http://dx.doi.org/10.2307/255568>
- White, R. E. (1986). Generic business strategies, organisational context and performance : an empirical investigation. *Strategic Management Journal*, 7, 217-231. <http://dx.doi.org/10.1002/smj.4250070304>
- Williamson, O. (1975). *Markets and hierarchies*. N-Y: The Free Press.
- Wissemma, J. G., Van der Pol, H., W., & Messer, H. M. (1980). Strategic Management Archetypes. *Strategic Management Journal*, 1 (1), 37-47. <http://dx.doi.org/10.1002/smj.4250010105>
- Woo, C. Y., & Willard, G. (1983). Performance representation in business policy research. Dallas: Annual National Meeting of the Academy of Management.
- Zajak, E. J. (1990). CEO selection, succession, compensation and firm performance: a theoretical integration and empirical analysis. *Strategic Management Journal*, 11, 217-230. <http://dx.doi.org/10.1002/smj.4250110304>

Table 1. The tour-operators named by at least two top managers

Rank of the tour-operator according to its total number of quotations	The Tour-Operators named at least twice	Total number of quotations of the tour-operator	Average rank of the tour-operator when named	Average number of tour-operators quoted by the top managers naming the tour-operator
1	Fram	35	2,05	3,34
2	Voyageurs du Monde	23	1,87	3,65
3	Kuoni	15	2,07	4,46
4	Nouvelles Frontières	13	3,16	4,23
5	Donatello	11	2,39	4,45
6	Terres d'Aventure	10	2,10	4,30
7	Jet Tours	9	2,88	4,22
8	Marmara	9	3,62	5,11
9	Asia	8	2,75	5
10	Look Voyages	8	3,12	4,87
11	Go Voyages	6	3,26	4,66
12	Allibert	5	3	4,4
13	Maison de la Chine	4	2,75	5,25
14	Club Méditerranée	4	3,25	4,75
15	Vacances Air Transat	3	2	3
16	Republic Tours	3	3,33	3,66
17	Club Aventures	3	5	5,33
18	Clio	3	4	5
19	Beachcomber Tours	2	2	5
20	Atalante	2	4	5
21	Marsans	2	2	3,5
22	Capitales Tours	2	3	4
23	Aventuria	2	2	3,5
24	Pierre et Vacances	2	5	6
25	Ikhare	2	2	5

# Examining the Antecedents to Inter-partner Credible Threat in the International Joint Ventures

Lan-Ying Huang

Department of Business Administration

National Changhua University of Education, Changhua 500, Taiwan, R.O.C.

Tel: 88-64-7232105 ext. 7348 E-mail: lyh@cc.ncue.edu.tw

Ying-Jiun Hsieh (Corresponding author)

Institute of Technology Management

National Chung Hsing University, Taichung 402, Taiwan, R.O.C.

Tel: 88-64-22840547 ext. 829 E-mail: arborfish@nchu.edu.tw

Pei-Ling Hsiao

Feng Tay Enterprises Co., Ltd., Yunlin County 640, Taiwan, R.O.C.

Received: August 18, 2011 Accepted: September 6, 2011 Published: January 1, 2012

doi:10.5539/ibr.v5n1p49

URL: <http://dx.doi.org/10.5539/ibr.v5n1p49>

## Abstract

Since the 1980s, international joint venture (IJV) becomes a strategic tool enabling firms to escape from operational risk and cost. However, the IJV represents a voluntary cooperative relationship between partners; it is prone to risk of opportunistic behavior by one or both partners in this relationship. Therefore, some characteristics of the IJV are unstable and difficult to manage. Essentially, the inter-partner credible threat entails the certainty of a firm's retaliation given its partner's earlier cheating. This study explores the antecedents to inter-partner credible threat. The study develops an integrative framework to explain how economic mechanisms, business expertise, and relationship mechanisms affect the partner's relative credible threat. The authors use 40 Taiwanese companies which engage in IJV activities as the sample and the returns-ratio is 12.41%. Evidence explores that the more in the investment size, technological capabilities and low dependency of the partner, this partner exerts more credible threat to the other partner.

**Keywords:** Credible threat, International joint ventures, Opportunistic behavior

## 1. Introduction

Since the 1980s, international joint ventures (IJV) have grown rapidly as a proliferating form of foreign direct investment (Beamish & Jung, 2005). IJVs have been used in emerging countries as an organizational response that enables foreign partners escape from environment uncertainty in general, and from country risk in particular (Meschi, 2005). Steensma and Lyles (2000) also described joint ventures with local firms are commonly used by multinationals as a means to navigate those uncertain yet high-potential transitioning market. However, the IJV has sometimes been described as unstable (Yan & Zang, 1999; Kaufmann, O'Neil & York, 2006), prone to high rates of early termination (Pearce, 1997) and difficult to manage (Madhok, 2006). One of the main reasons comes from partners' opportunism, which is the central concept in the study of hybrid governance structures (Williamson, 1991). Because the IJV represents a voluntary cooperative relationship between partners, it is prone to risk of opportunistic behavior by one or both partners in this relationship (Parkhe, 1993). Therefore, IJVs are highly susceptible to opportunistic behavior generated by costly sub goal pursuits. It makes investors to spend time and efforts to avoid and prevent such behaviors, not because all economic agents behave opportunistically all the time, but because "some agents behave in this fashion and it is costly to sort out those who are opportunistic from those who are not" (Williamson, 1985). Williamson (1985) noted that if opportunism is absent in alliances, it would suffice for parties to always agree to adapt to unanticipated contingencies in a jointly optimal way and always to share profits according to some general rules established in advance. Namely, the existence of opportunism is unavoidable.

Due to the existence of opportunism and instability of IJVs, several approaches are proposed to make partners cooperative; one of them is the invisible-hand approach (Friedman & Hechter, 1990). It is argued that the emergence of cooperation comes from spontaneous and voluntary actions of partners who share no common ends or values. Cooperation persists because it constitutes a self-enforcing equilibrium. Zhang and Rajagopalan (2002) argued that when self-enforcing equilibrium exists, partners do not have to control the alliances and they will stick to cooperation. They proposed the role of inter-partner credible threat, which means “the certainty of either partner’s retaliation given the other partner’s earlier cheating.” Zhang and Rajagopalan (2002) concluded that when inter-partner credible threat exists in the IJV, partners can even prevent others’ opportunistic behavioral without superfluous control. They further pointed out that inter-partner credible threat is the first order determinant of partners’ relative payoffs, and partners’ relative control is the second one. Kaufmann, O’Neil and York (2006) also indicated that the credible threat can reach extra-transactional dealings, decrease partners’ bad behaviors and increase the likelihood of IJVs’ survival.

Prior research only discussed the situations whether IJV partners can exert credible threat or not (Zhang & Rajagopalan, 2002; Kaufmann, O’Neil & York, 2006; Duan & Juma, 2007). This study argues that the exertion of credible threat is not absolute but rather varies with its sources. However, scholars have argued that resources between partners may not always balance (Yan & Gray, 1994) and the degree of partners’ capabilities may vary (Lane, Salk & Lyles, 2001). Therefore, partners’ relative resources and capacities may result in their relative credible threat. It is worth to know the determinants of the source of partners’ relative credible threat and discuss if asymmetric source would cause asymmetric credible threat. This study provides an integrative framework to explore the antecedents, which include economic mechanism, organizational capabilities and the relationship mechanism between partners, to inter-partner credible threat in the IJV.

## 2. Literature Review of Credible Threat

The concept of credible threat can be revealed from the prisoner’s dilemma. In infinitely repeated prisoner’s dilemma model, partners’ strategies will be taken at  $t$  stage under the effect of  $t-1$  stage. Due to the self-protection and the retaliation ability of partners, both of them will learn to cooperate and the game will reach the cooperative equilibrium. The inter-partner credible threat is “the certainty in either partner’s retaliation to the other partner’s earlier cheatings” (Zhang & Rajagopalan, 2002). The transaction cost economic emphasizes on the use of internal organizational to preserve incentives to cooperate and share knowledge via controlling threats of opportunism (Sampson, 2004). Credible threat is one of the mechanisms to curb partners’ opportunistic behavior and decrease related cost. As the concept of transaction cost theory, one’s bounded rationality will limit his ability to cover all the possibilities in the contract. Incomplete contracting makes the firms vulnerable to the opportunistic behavior (Kaufmann, O’Neil & York, 2006). Then, the present of credible threat is one of the useful tools to prevent bad behavior of partners.

Bergen, Heide and Dutta (1998) identified credible threat as the condition that increases the partners’ enforcement abilities and decrease the other partners’ bad behaviors that are costly to be detected. They indicated that the presence of an alternative channel of distribution in distributor’s area is one form of credible threat, which can help manufacturers enhance their abilities to avoid distributors from violating established distribution. Zhang and Rajagopalan (2002) described that the presence of inter-partner credible threat can help partners to control the alliance and receive the payoff they deserved without being cheated. They obtained empirical evidence from four IJVs in China and figured out several factors that influence partners’ credible threat. Kaufmann, O’Neil and York (2006) identified three mechanism to influence the stability of joint venture, including legal, economic and relationship mechanism. Credible threat belongs to the economic mechanism. The contracts can not always contain the entire possible situations; therefore, credible threat can play the role of extra-transactional dealing to prevent potential opportunistic behavior. They recognized that stopping transactions would be the source of credible threat and further examined the positive effect of credible threat on the survival of joint venture. The partner can retaliate by terminating other transactions that may be worth even more to the original party to prevent other partners’ bad behaviors.

Cooperation builds upon the credible threat constitutes a self-enforcing equilibrium. This study argues that partners may possess unbalanced sources of credible threat and these unbalance sources between partners may result in their relative credible threat. Only a few researchers mentioned the determinants of inter-partner credible threat or examined the impact of the inter-partner credible threat (Zhang & Rajagopalan, 2002; Duan & Juma, 2007). Extending from the previous studies related to the inter-partner credible threat, this study develops an integrative determinants based on several dimensions including economic mechanism, business expertise and the relationship mechanism. Economic mechanism includes asset specificity and the investment size relative to the other partner. Technological capabilities, organizational capabilities and industrial experiences relative to the other partner are

involved in business expertise, while behavioral transparency, dependency and dominant management relative to the other partner are discussed in relationship mechanism.

### **3. Research Model and the Research Hypotheses**

#### *3.1 The Relationship between Economic Mechanisms and The Relative Credible Threat*

##### **3.1.1 Asset Specificity**

Asset specificity refers to the nonrecoverable and nonredeployable investment (Williamson, 1991). The decision a firm makes to invest nonrecoverable assets in IJV is risky because these assets, like sunk cost, redeployed to alternative uses lose or decrease their original productive value (Parkhe, 1993; Williamson, 1991). Therefore, firms suffer great financial risk (Kaufmann, O'Neil & York, 2006). It will be costly for partners to terminate the cooperation because of the considerable switching cost. Owing to the potential loss of partners, high asset specificity represents the partners' credible commitment to the relationship and reduces the partners' opportunistic behavior (Parkhe, 1993; Kaufmann, O'Neil & York, 2006) and partners are locked into the relationship, creating an exit barrier (Lui & Ngo, 2005) and having no bargaining chips to threaten the other partners. They become loyal to the relationships and would not take horrible actions to destroy the team or even quit. There will be less credible threat the partners can exert on the others. Then, the dominant may force the other into making the bulk of the transaction-specific investment (Lonsdale, 2001). When the contribution of specific asset is asymmetric between partners, the partner who invests more specific asset may lose his bargaining power compared to other partners.

H1: The more specific asset one partner invests than the other, the less credible threat he can exert on the other partner.

##### **3.1.2 Investment Size**

Partner's investment in the IJV is an important financial source for IJV to operate. When the size of an IJV is large, it tends to be well diversified and is less likely to go bankrupt (Boateng, 2004). Large firms hold more resources than small and medium size firms (Beamish & Lee, 2003) and large ventures can operate more stably, leading to better performance. Capital investment represents a key indicator of firm size and it is argued that the size of the investment could lead to partner's bargaining power. The asymmetric investment size would bring asymmetric partners' bargaining power. Partners with more bargaining power could be more influential in the IJV, so they may exert more credible threat as a result.

H2: The more investment size one partner invests than the other, the more credible threat he can exert on the other partner.

#### *3.2 The Relationship between Business Expertise and The Relative Credible Threat*

##### **3.2.1 Organizational Capability**

Organizational capability signifies a firm's ability to deploy resources, and to utilize resources for a desired end (Helfat & Peteraf, 2003). Firms with organizational capabilities have better ability to control and handle the operation of business. Therefore, firms with stronger control are more influential on the overall operation of IJV. Powerful control and influence can also show the powerful punishment in the IJV. Yan and Gray (2001) suggested that an IJV parent can increase its control to curb opportunism by its partners. Better organizational capabilities can make partners more powerful and influential to control the IJV, and thus exert stronger punishment on the other partners. Therefore, partners with better organizational capabilities than others can better expose the others on the threat of powerful punishment.

H3: The better organizational capabilities one holds than the other partner, the more credible threat he can exert on the other.

##### **3.2.2 Technological Capability**

Technological capability refers to "the ability to develop and design new product and process and upgrade knowledge about the physical world in unique ways" (Wang, Lo, Zhang, & Xue, 2006). Technology expertise is usually implicit in experiences and skills, firm-specific advantage (Lecraw, 1984). From the perspective of resource-based theory, capabilities, especially the technological skills, are hard to transfer and would bring forth competitive advantage for firms. Furthermore, many scholars have found the positive relationship between technological capabilities and business performance. Tsai (2004) identified technological capabilities as the most important determinant of a firm's productivity growth performance, which also had greater impact than other conventional factors, such as labor and physical capital. Wang et al. (2006) found that technological capabilities can increase a firm's ability to apply new external knowledge and directly result in better business performance and new product development performance. Once a partner contributes the key resources in the alliance and makes

profit, the firm becomes powerful in the JV because the other partners would respond to his requests to prevent the absence of critical resources (Pfeffer & Salanick, 1978). Therefore, a partner's technological capabilities will enhance his bargaining power. Yan and Gray (1994) found that the technological resources IJV partners bring to the table influenced the outcomes of the bargaining processes. Lecraw (1984) also argued that technology expertise was one of the sources of bargaining power which induces more control in the JV. The firm with more powerful technological capabilities will have more bargaining chips in the process of negotiation. The effects of actions the powerful partners take to punish the opportunistic behavior will be greater, so the threat they expose on the other partners will be quite influential. Therefore, if the contribution of technological capabilities is more asymmetric between partners, the bargaining power between partners would also be more unequal and the ability to exert credible threat would be more asymmetric.

H4: The more powerful technological capabilities one partner possesses, the more credible threat one can exert on the other partner.

### 3.2.3 Industrial Experience

Kumar (1995) pointed out that firms with industrial experiences have the resource of knowledge, skills and learning capacity. In competitive markets, firms with abundant industrial experiences can be more adaptive to gain new technology and skills quickly and have competitive advantages. Industrial experience represents their market familiarity and is helpful for new product success (Nerkar & Roberts, 2004). At the same time, industrial experience also represents the well-established important network with stakeholders and enterprises. Luo (1998) also indicated that partners' industrial experience demonstrated partners' history and strong background in the industry and often brought them good reputation and or high credibility in the market. Therefore, partners with long-length industrial experiences have their specific power and influence in the market. In addition, Luo (1997) found that partner's industrial experience had a significant effect on market growth and operation stability. Firms' accumulated experience and knowledge for years can better utilize proper methods to help the transaction be handled more efficiency and decrease operation cost. Base on these advantages, a firm with long-length industrial experiences can get certain bargaining power in alliances, and its network with other firms could be the punishment tool to avoid opportunistic behavior.

H5: The more industrial experiences one has than the other partner, the more credible threat he can exert on the other.

## 3.3 *The Relationship between Relationship Mechanisms And Partners' Relative Credible Threat*

### 3.3.1 Low Dependency

Alliances are formed when organizations perceive that they cannot achieve their desired outcomes through markets or hierarchies and can represent a configuration of interdependencies (Oliver, 1990). When the dependence between firms is high, both of them are critical to each other and cannot operate alliances alone. Gill and Butler (2003) argued that inter-partner dependence is a necessary condition for collaboration. Hennart (1988) recognized that when inter-partner dependency is high, it reduces the need for internal control within a joint venture. Parties can not escape from the relationship. Consequently, their behaviors are easier to be under control. Dependence favors alliance stability and provides a motivation to act in a trustworthy manner or promote a desire to resolve any conflicts (Gill & Butler, 2003). However, if dependency is not symmetric between partners, the partner with lower dependency is more influential to the other because of his bargaining power. Therefore, when mutual dependency is more asymmetric, the partner with low dependency can exert more credible threat to the other.

H6: The more asymmetric between partners' dependency, the more credible threat one with less dependence can exert on the other.

### 3.3.2 Behavioral Transparency

Behavioral transparency means "the speed and reliability with which alliance partners learn about each other's actions" (Parkhe, 1993). When partners can easily learn and realize each other's behavior, their behavioral transparency is high. Eggert and Helm (2003) recognized that one's transparency could be perceived from the other's lens and is based on the perception of the information exchange and of the important characteristics of the interaction partner. According to the transaction cost theory, impacted information and uncertainty would increase transaction cost, including searching and monitoring cost. Bendor, Kramer and Stout (1991) noted that noise would vastly cause the monitoring problem and also affected the effectiveness of transaction. Transparency can help minimize the uncertainty and the need to constantly search for information (Eggert & Helm, 2003). Parkhe (1993) suggested that partners' high behavioral transparency is helpful for cooperation. If one's behavior is very transparent, his behavior can be observed and monitored very directly and quickly; therefore, it decreases the transaction

obstacle and cost for the others and it is efficient for the other partners to take reactions and execute subsequent strategies. Therefore, if the opportunistic behavior occurs, the partner can exert his punishment or retaliation very efficiently. In other words, when one's behavior is very opaque, the other is hard to react in time because there is observation lag. Therefore, if the behavior transparency is equal between partners, both of them can exert their credible threat equally efficiently.

H7: The more asymmetric between partners' behavior transparency, the one with low behavior transparency can exert more credible threat.

### 3.3.3 Dominant Management

Joint ventures are always prone to high transaction costs because of inter-partner negotiation cost (Kaufmann, O'Neil and York, 2006). Partners in alliance are always seeking for individual goal instead of alliance's goal; therefore, it raises a lot of cost of time and energy for partners to negotiate. Dominant management structure can minimize coordination cost and hence outperforms IJVs who shared control (Killing, 1983). Partners' dominant management usually represents by their more relative equity shares (Kaufmann, O'Neil & York, 2006) or the share of management teams. The majority ownership may have greater power to detriment the other minority owner without negotiations (Yan & Zeng, 1999). Lu and Hebert (2005) claimed that ownership control refers to the ability to exercise authority and influence over the IJV's strategic and operational decisions, systems and methods (Anderson & Gatignon, 1986). Many scholars have agreed that dominant management is better to prevent partners' opportunism than shared control structure (Leraw, 1984; Killing, 1983; Ding, 1997), because firms with majority equity can utilize their legitimate authority to monitor operation of IJV and also punish the partners' bad behavior through voting rights. When the division of ownership is more asymmetric between partners, the dominator is more powerful to exert credible threat, which is stronger and more direct.

H8: The more dominant one's management is than the others, the more credible threat he can exert.

## 4. Methods

### 4.1 Data Collection and The Sample

Taiwanese companies engaging in IJV activities represent the population; the information was acquired from the website: <http://newmops.tse.com.tw>. As Burton and Saelens (1982) suggested, partners in the joint venture should possess at least 20% of equity shares. The study identified 419 eligible companies which engaged in IJV. After two mailing waves in 12 weeks, we received 52 responses, a 12.41% response rate. However, 12 responses were considered inappropriate as a result of incompleteness or over two partners in the partnership. Namely, 40 usable surveys were used to test our hypotheses. We tested these 40 usable responses for nonresponse bias by comparing early and late respondents; we find no evidence of nonresponse bias (Armstrong & Overton, 1977).

### 4.2 Measures

Most of the questionnaire measurement items come from existing literature, anchored on seven-point Likert-type scales. Each questionnaire item of variables takes the form of comparison and the respondents are asked to compare the situation with his partner to understand the degree of difference between partners in IJV.

Regarding the dependent variable, we measure the inter-partner credible threat by asking whether the partner or the firm itself has ever taken opportunistic actions in this IJV, and whether the firm has relatively strong ability to punish the opportunistic behavior by the other partner when compared with the other partner. For the antecedents to inter-partner credible threat, we measure three dimensions which are economic mechanism, business expertise and relationship mechanism. We provide a detailed description of the measurement items in Table 1. Factor analysis (Hair, Anderson, & Tatham, 1998) and the internal reliability statistics (Nunnally & Bernstein, 1994) indicate a satisfactory level of content validity and reliability. Reliability values are all above 0.7.

### 4.3 Correlations and Hypothesis Tests

We provide the description of the sample in Table 2 and the correlations among the variables in Table 3. Based on the research hypotheses, we develop the following regression equations:

$$C_i = \beta_0 + \beta_1 \text{ asset specificity} + \beta_2 \text{ investment size} + \beta_3 \text{ organizational capabilities} + \beta_4 \text{ technological capabilities} + \beta_5 \text{ industrial experience} + \beta_6 \text{ low dependency} + \beta_7 \text{ behavioral transparency} + \beta_8 \text{ dominant management} + \varepsilon$$

Where  $C_i$  refers to inter-partner credible threat and  $\varepsilon$  represents random error. Regression analysis is used to measure the causality among variables and test the hypotheses. The result suggests that investment size in economic mechanism, technological capabilities in business expertise, and low dependency in relationship mechanism relate positively to credible threat. Therefore, Hypotheses 2, 3, and 6 are supported. In contrast, asset specificity in

economic mechanism, organizational capabilities and industrial experiences in business expertise, and behavioral transparency and dominant management in relationship mechanism are not influential. Namely, Hypotheses 1, 4, 5, 7, and 8 are not supported.

## 5. Discussion

Investment size has a positive and significant effect on partners' relative credible threat entails that when a firm invests more capital compared to the other partner, the firm will be more powerful to exert his credible threat. The capital invested in the IJV makes the partner influential, turning to credible threat to avoid self-interest behavior. Financial assistance is substantiated to be the importance source of bargaining power and credible threat. Financial retaliation is helpful to punish bad behaviors per se.

Zhang and Rajagopalan (2002) found that the small local China partner can not exert credible threat to punish the opportunistic behavior of the Japanese partner because of the strategic importance of the specific asset investment. However, the result shows that asset specificity has a positive but not significant effect on partners' relative credible threat. The reason might be that firms with high specific investment have the sense of self-protection and would tend to use legal mechanism (e.g., contractual agreement) to avoid the perception of opportunistic behavior of partners. Legal protection is more important than mutual threat. As Table 2 depicts, 70% of the respondents indicate that they have five cooperative years with their partner before the IJV. The other possible reason might be that the partners have trust between each other. Since the asset specificity is the nonrecoverable and nonredeployable investment (Williamson, 1991), the investment of asset specificity represents their "credible commitment." The existence of trust would make firms to form alliances and invest their nonrecoverable asset. Therefore, the sense of trust makes credible threat less important. Partners might think it is not necessary to exert credible threat.

Technological capability is proved to have a positive effect on partners' relative credible threat. The result is in accordance with Zhang and Rajagopalan's (2002) finding which indicated that technological capability is one of the sources of credible threat between partners. The other two variables, organizational capabilities and industrial experiences, produce insignificant effects. Technology know-how tends to be the stronger weapon in IJV credible threat than the management, process know-how and experience. Overall, business expertise has been viewed as the important source of bargaining power; however, the results show that not all of the bargaining chips can turn to be the punishing tool and prevent partners' opportunistic behaviors. The possible reasons come from the external and internal environment, such as contractual rigidity, trust and partners' subjective will. On the other hand, due to the contractual rigidity, partners' specific abilities are required to execute under the contractual stipulations.

Abundant research indicated that the relationship between partners in an IJV is considered crucial. According to the relationship mechanism, low dependency is proved to have a positive effect on inter-partner credible threat. A less dependent partner tends to be more flexible and self efficient in a collaboration. On the other hand, it also indicates that a highly dependent firm will stick to the cooperation, making the firm less powerful in negotiation.

Finally, dominant management and behavioral transparency are not influential. The problem is that in the absence of an historical relationship between the partners, in which trust has been developed, determining a potential partners' inclination toward opportunism is reduced. As noted above in Table 2, 70% of the respondents indicate that they have more than five years of cooperation with their partners before the IJV and 60% of the respondents reveal that their IJV experience with partners are more than five years. Trust reduces the problem for a party to signal to its partner. The level of perceived trust instead of transparency should lessen the need for costly mechanisms to guard against opportunism. IJVs are prone to high transaction costs due to inter-partner negotiations. Costs arise from the time and energy involved in frequent negotiations and co-management conflict. The effect of dominant management is mixed (Choi & Beamish, 2004). The detrimental impact of inter-partner negotiation can be reduced by agreeing to decide the responsibility in advance, regardless of dominant or shared management. In addition, partners might not punish every opportunistic behavior in the IJV as long as such behavior would not be too serious to make IJV unstable. In partners' toleration zone, firm might reduce the conflict and negotiation in management. The exertion of punishment might cost time, efforts and even cause possible losses.

## 6. Conclusion

In this study, we identify the criteria of credible threat and explore if asymmetric source would cause partners' relative credible threat. We found some implications. First, credible threat is dynamic. It is argued that the main source of credible threat is derived from partners' bargaining power. As Yan and Gray (1994) discussed, bargaining power is dynamic and transferrable. The power of bargainer will differ when internal and external environment change. It is suggested that a firm needs to enhance its capabilities to maintain its influence and importance in the alliance. Second, firms should enhance their input of critical and imperfect imitable resources. As our results show, firms with technology capability and large investment size relative to the other partner have positive influence on



their relative inter-partner credible threat. More monetary investment makes IJV diversified and stable (Boateng, 2004). Therefore, the size of investment can enhance partners' position in the IJV and better control the alliances (Steensma & Lyles, 2000). A firm with dominant investment size becomes the source of inter-partner credible threat and has control over the IJV. Thus, enhancing the input of critical and imperfect imitable resources (e.g., capital and technology) can be the tool to threaten and punish the opportunistic partners. Third, firms need to keep the contract specific and contingent. It is argued that one of the reason partners are unable to exert their credible threat is because of contractual incompleteness and rigidity. Thus, it is suggested that the relational contract should be as complete as possible. Finally, firms should choose their partners carefully before the cooperation. Firms may not always monitor and punish their partners' opportunistic behaviors, even if they have the inter-partner credible threat to their partners. For corporations, searching new partners might be more annoying, incurring time, effort and switching cost. Therefore, firms tend to tolerate partners' opportunistic behaviors, as long as the opportunistic behavior would not cause too much loss.

Certain limitations are of note in this study. First, the low response rate and small sample size represent the major limitation. Apparently, the small sample size impedes generalization of the results. Second, we did not control extraneous effects in this study. Likewise, the study assumes normality, linearity, independence of error term, free from multicollinearity, etc in the regression analysis; these assumptions need further confirmation. Particularly, this study is the first to attempt to test the antecedents to inter-partner credible threat. Prior research largely focuses on the IJV's survival or payoff under inter-partner credible threat. Thus, future studies exploring other factors affecting inter-partner credible threat and/or considering the IJV's performance are suggested.

## References

- Anderson, E., & Gatignon, H. (1986). Modes of entry: a transaction cost analysis and propositions. *Journal of International Business Studies*, 17(3), 1-26. <http://dx.doi.org/10.1057/palgrave.jibs.8490432>
- Armstrong, J. S., & Overton, T. S. (1977). Estimating non-response bias in mailing surveys. *Journal of Marketing Research*, 14 (August), 396-402. <http://dx.doi.org/10.2307/3150783>
- Beamish, P. W., & Lee, C. (2003). The Characteristics and Performance of Affiliates of Small and Medium-Size Multinational Enterprises in an Emerging Market. *Journal of International Entrepreneurship*, 1(1), 121-134. <http://dx.doi.org/10.1023/A:1023223424789>
- Beamish, P. W., & Jung, J. C. (2005). The performance and survival of joint ventures with parents of asymmetric size. *Management International*, 10(1), 19-30. <http://cat.inist.fr/?aModele=afficheN&cpsid=17555819>
- Bendor, J., Kramer, R. M., & Stout, S. (1991). When in doubt? Cooperation in a noisy prisoner's dilemma. *Journal of Conflict Resolution*, 35(4), 691-719. <http://dx.doi.org/10.1177/0022002791035004007>
- Bergen, M., Heide, J. B., & Duta, S. (1998). Managing gray markets through tolerance of violations: a transaction cost. *Managerial and Decision Economics*, 19(3), 157-165. <https://www.csom.umn.edu/Assets/71546.pdf>
- Blodgett, L. (1992). Factors in the instability of international joint ventures: an event history analysis. *Strategic Management Journal*, 13(6), 127-135. <http://dx.doi.org/10.1002/smj.4250130607>
- Boateng, A. (2004). Determinants of capital structure - Evidence from international joint ventures in Ghana. *International Journal of Social Economic*, 31(1/2), 56-66. <http://dx.doi.org/10.1108/03068290410515411>
- Burton, F. N., & Saelens, F. H. (1982). Partner choice and linkage characteristics of International Joint Ventures in Japan: an exploratory analysis of the inorganic chemicals sector. *Management International Review*, 2(22), 1-21. <http://www.jstor.org/pss/40227632>
- Choi, C., & Beamish, P. W. (2004). Split management control and international joint venture performance. *Journal of International Business Studies*, 35(3), 201-215. <http://dx.doi.org/10.1057/palgrave.jibs.8400078>
- Day, G. S., (1994). The capabilities of the market-driven organization. *Journal of Marketing*, 58, 37-52. <http://www.jstor.org/stable/1251915>
- Delios, A., & Beamish, P. W. (1999). Ownership strategy of Japanese firms: transactional, institutional and experience influences. *Strategic Management Journal*, 20(10), 915-933. [http://dx.doi.org/10.1002/\(SICI\)1097-0266\(199910\)20:10<915::AID-SMJ51>3.0.CO;2-0](http://dx.doi.org/10.1002/(SICI)1097-0266(199910)20:10<915::AID-SMJ51>3.0.CO;2-0)
- Ding, D. Z. (1997). Control, Conflict, and Performance: a study of US-Chinese joint ventures. *Journal of International Marketing*, 5(3), 31-45. <http://www.scopus.com/record/display.url?eid=2-s2.0-0002744218&origin=inward&txGid=HPM2y30t-rOoRYJGEJdu1nh%3a2>

- Duan, J., & Juma, N. (2007). Inter-partner credible threat and the survival of U.S.-China joint ventures. *Journal of Business Strategies*, 24(1), 91-104. <http://www.freepatentsonline.com/article/Journal-Business-Strategies/165017898.html>.
- Eggert, A., & Helm, S. (2003). Exploring the Impact of relationship transparency on business relationships: A cross-sectional study among purchasing managers in Germany. *Industrial Marketing Management*, 32(2), 101-108. [http://dx.doi.org/10.1016/S0019-8501\(02\)00224-9](http://dx.doi.org/10.1016/S0019-8501(02)00224-9)
- Frazier, G. L. (1983). On the Measurement of Interfirm Power in Channels of Distribution. *Journal of Marketing Research*, 20(2), 158-166. <http://www.jstor.org/stable/3151682>.
- Freeman, R. E. (1987). Review of the economic institutions of capitalism by O. E. Williamson. *Academy of Management Review*, 12, 385-387. <http://connection.ebscohost.com/c/book-reviews/4308003/economic-institutions-capitalism>.
- Frideman, D., & Hechter, M. (1990). *The comparative advantage of rational choice theory*. In G. Ritzer, *Frontiers of social theory*. The New York: Columbia University Press.
- Ganesan, S. (1994). Determinants of long-term orientation in buyer-seller relationships. *Journal of Marketing*, 58, 1-19. <http://www.jstor.org/stable/1252265>.
- Gill, J., & Butler, R. (2003). Managing Instability in Cross-Cultural Alliances. *Long Range Planning*, 36(6), 543-563. <http://dx.doi.org/10.1016/j.lrp.2003.08.008>
- Gulati, R., Khanna, T., & Nohria, N. (1994). Unilateral Commitment and the importance of Process in Alliances. *Sloan Management Review*, 35(3), 61-69. <http://search.proquest.com/docview/224964530>.
- Hair, J., Anderson, R., & Tatham, R. (1998). *Multivariate data analysis*. Englewood Cliffs, NJ: Prentice-Hall.
- Helfat, C. E., & Peteraf, M. A. (2003). The dynamic resource-based view: capability lifecycles. *Strategic Management Journal*, 24(10), 997-1010. <http://dx.doi.org/10.1002/smj.332>
- Hennart, J. (1988). A Transaction costs theory of equity joint venture. *Strategic Management Journal*, 9(4), 361-374. <http://dx.doi.org/10.1002/smj.4250090406>
- Kaufmann, J., O'Neill, H. M., & York, A. S. (2006). The impact of structural prescriptions on joint venture survival. *American Journal of Business*, 21(2), 43-60. <http://dx.doi.org/10.1108/19355181200600009>
- Killing, J. P. (1983). *Strategies for Joint venture Success*. New York: Praeger Publishers.
- Kumar, B. N. (1995). Partner-selection criteria and success of technology transfer: A Model based on learning theory applied to the case of Indo-German technical collaborations. *Management International Review*, 35(1), 65-78. <http://www.jstor.org/stable/40228296>
- Lado, A., Boyd, N. G., & Wright, P. (1992). A competency-based model of sustainable competitive advantage: toward a conceptual integration. *Journal of Management*, 18(1), 77-91. <http://dx.doi.org/10.1177/014920639201800106>
- Lane, P., Salk, J. E., & Lyles, M. A. (2001). Absorptive capacity, Learning and Performance in International Joint ventures. *Strategic Management Journal*, 22(12), 1139-1161. <http://dx.doi.org/10.1002/smj.206>
- Lecraw, D. J. (1984). Bargaining power, ownership, and profitability of transnational corporations in developing countries. *Journal of International Business Studies*, 15, 27-43. <http://www.jstor.org/pss/154555>.
- Lin, X. (2004). Determinations of culture adaptation in Chinese-U.S. joint venture. *Cross Cultural Management: An International Journal*, 11(1), 35 – 47. <http://dx.doi.org/10.1108/13527600410797738>
- Lonsdale, C. (2001). Lock-in to Supplier Dominance: On the Dangers of Asset specificity for the Outsourcing Decision. *Journal of Supply Chain Management*, 37(2), 22-27. <http://www.freepatentsonline.com/article/Journal-Supply-Chain-Management/75142125.html>.
- Lu, J. W., & Hebert, L. (2005). Equity control and the survival of international joint ventures: a contingency approach. *Journal of Business Research*, 58, 736-745. <http://dx.doi.org/10.1016/j.jbusres.2003.08.012>
- Lui, S. S., & Ngo, H. (2005). The influence of structural and process factors on partnership satisfaction in interfirm cooperation. *Group Organization Management*, 30(4), 378-397, <http://dx.doi.org/10.1177/1059601103259113>
- Luo, Y. (1997). Partner selection and venturing success: the case of joint venture with firms in the People's Republic of China. *Organization Science*, 8(6), 648-662. <http://www.jstor.org/stable/2635161>
- Luo, Y. (1998). Joint venture success in China: how should we select a good partner? *Journal of World Business*,

33(2), 145-166. [http://dx.doi.org/10.1016/S1090-9516\(98\)90003-7](http://dx.doi.org/10.1016/S1090-9516(98)90003-7)

Madhok, A. (2006). How much does ownership really matter? Equity and trust relations in joint venture relationships. *Journal of International Business Studies*, 37(1), 4-11. <http://dx.doi.org/10.1057/palgrave.jibs.8400182>

Meschi, P. (2005). Environmental uncertainty and survival of international joint venture: the case of political and economic risk in emerging countries. *European Management Review*, 2, 143-152. <http://dx.doi.org/10.1057/palgrave.emr.1500037>

Nerkar, A., & Roberts, P. W. (2004). Technological and product-market experience and the success of new product introductions in the pharmaceutical industry. *Strategic Management Journal*, 25(8/9), 779-799. <http://dx.doi.org/10.1002/smj.417>

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory*. (3rd ed.) New York: McGraw-Hill.

Oliver, C. (1990). Determinants of inter-organizational relationship: Integrat. *The Academy of Management Review*, 15(2), 241-265. <http://www.jstor.org/pss/258156>.

Parkhe, A. (1993). Strategic alliance structuring: a game theoretic and transaction cost examination of interfirm cooperation. *Academy of Management Journal*, 36(4), 794-829. <http://www.jstor.org/pss/256759>.

Pearce, R. J. (1997). Toward understanding joint venture performance and survival: a bargaining and influence approach to transaction cost theory. *Academy of Management Review*, 22(1), 203-225. <http://www.jstor.org/pss/259229>.

Pfeffer, J., & Salancik, G. R. (1978). *The external control of organization*. New York: Harper and Row.

Sampson, R. C. (2004). Organizational choice in R&D alliances: knowledge-based and transaction cost perspectives. *Managerial and Decision Economics*, 25, 421-436. <http://dx.doi.org/10.2139/ssrn.424100>

Saxton, T. (1997). The effects of partner and relationship characteristics on alliance outcomes. *Academy of Management Journal*, 40(2), 443-461. <http://www.jstor.org/pss/256890>

Steensma, H. K., & Lyles, M. A. (2000). Explaining IJV survival in a transitional economy through social exchange and knowledge-based perspectives. *Strategic Management Journal*, 21(8), 831-851. [http://dx.doi.org/10.1002/1097-0266\(200008\)](http://dx.doi.org/10.1002/1097-0266(200008))

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533. [http://dx.doi.org/10.1002/\(SICI\)1097-0266\(199708\)](http://dx.doi.org/10.1002/(SICI)1097-0266(199708))

Tsai, K. (2004). The impact of technological capability on firm performance in Taiwan's electronics industry. *The Journal of High Technology Management Research*, 15(2), 183-195. <http://dx.doi.org/10.1016/j.hitech.2004.03.002>

Wang, Y., Lo, H., Zhang, Q., & Xue, Y. (2006). How technological capability influences business performance: an integrated framework based on the contingency approach. *Journal of Technology Management in China*, 1(1), 27-52. <http://dx.doi.org/10.1108/17468770610642740>

Williamson, O.E. (1985). *The Economic Institutions of Capitalism*. New York: Free Press.

Williamson, O. E. (1991). *Markets and Hierarchies*. New York: Free Press.

Yan, A., & Gray, B. (1994). Bargaining power, management control, and performance in United States-China joint venture: a comparative case study. *Academy of Management Journal*, 37(6), 1478-1517. <http://dx.doi.org/10.2307/256796>

Yan, A., & Gray, B. (2001). Negotiating control and achieving performance in international joint ventures: a conceptual model. *Journal of International Management*, 7(4), 295-315. [http://dx.doi.org/10.1016/S1075-4253\(01\)00049-7](http://dx.doi.org/10.1016/S1075-4253(01)00049-7)

Yan, A., & Zeng, M. (1999). International joint venture instability: a critique of previous research, a reconceptualization, and directions for future research. *Journal of International Business Studies*, 30(2), 397-414. <http://dx.doi.org/10.1057/palgrave.jibs.8490076>

Zhang, Y., & Rajagopalan, N. (2002). Inter-partner credible threat in international joint venture: an infinitely repeated prisoner's dilemma model. *Journal of International Business Studies*, 33(3), 457-478. <http://dx.doi.org/10.1057/palgrave.jibs.8491026>

Table 1. Variable Operational Definition, Questionnaire Items

Variables	Operational definition	Questionnaire items	Reference
<b>Economic mechanism</b>			
Asset -specificity	The degree to which an asset can be redeployed to alternative uses and by alternative users without sacrifice of productive value.	1. degree to change firms' way of wording to suit needs of IJV 2. degree to investment in time and effort for this project 3. degree they waste knowledge concerning each other's methods of operation if partners decided to stop working with each other 4. advertising intensity 5. R & D intensity	Delios & Beamish, 1999; Lui & Ngo, 2005
Investment size	Partners' relative capital amount of investment	total capital amount of investment relative to the other partner	
<b>Business expertise</b>			
Organizational capability	Organizational and managerial process	1. managerial competencies 2. knowledge and skills of employees 3. firm climate 4. organizational structure 5. coordination 6. strategic planning 7. ability to attract creative employees	Teece et. al, 1997
Technological capability	those that develop and produce technology	1. technology development capabilities 2. manufacturing processes 3. new product development capabilities 4. technological capabilities 5. manufacturing and plant equipment	Day ,1994; Lado et al. ,1992
Industrial experience	IJV industrial experience	partners' industrial involving years relative to the other partner	
<b>Relationship mechanism</b>			
Low dependency	Partner's need to maintain the alliance relationship with the other to achieve desired goals	1. firm has strong power than the other partner 2. firm has strong influence than the other partner 3. Reliance or the dependency on the partner (reverse coded)	Lin, 2004 Ganesan, 1994
Behavioral transparency	the speed and reliability with which alliance partners learn about each other's actions	1. Information source. 2. Information accuracy. 3. Speed to get information.	Parkhe, 1993
Dominant management	the division of equity between partners	the division of equity shares and the top management team with the other partner	Blodgett, 1992

Table 2. Description of the sample

Variables	Classification	Frequency	Percent (%)	Cumulative percent
Amount of capital investment	Below 2 billion	20	50%	50%
	2-6 billion	10	25%	75%
	6-10billion	2	5%	80%
	Over 10 billion	8	20%	100%
Total profit (last year)	Below 2 billion	10	25%	25%
	2-6 billion	15	37.5%	62.5%
	6-10billion	3	7.5%	70%
Number of employee	Over 10 billion	12	30%	100%
	Below 1000	26	65%	65%
	1000-2000	5	12.5%	77.5%
	2000-3000	4	10%	87.5%
Years of firms	Over 3000	5	12.5%	100%
	Below 15 years	4	10%	10%
	15-25 years	4	10%	20%
	Over 25 years	32	80%	100%
Years of investment overseas	Below 15 years	25	62.5%	62.5%
	15-25 years	11	27.5%	90%
	Over 25 years	4	10%	100%
Years of IJV	Below 5 years	16	40%	40%
	5-15 years	21	52.5%	92.5%
	15-25 years	3	7.5%	100%
Partners' cooperative years (Before IJV)	Below 5 years	12	30%	30%
	5-15 years	16	40%	70%
	15-25 years	4	10%	80%
	Over 25 years	8	20%	100%

Table 3. Pearson correlation Analysis Result

Variables	Mean	S.D.	1	2	3	4	5	6	7	8
1.Asset Specificity	4.112	1.168								
2.Investment Size	2.775	2.455	-.467 <sup>c</sup>							
3.Organizational Capabilities	5.329	0.964	.014	.082						
4.Technological Capabilities	4.38	1.722	.024	-.087	.062					
5.Industrial Experience	3.025	2.496	-.132	.341 <sup>b</sup>	.122	.094				
6.Low Dependency	4.575	1.408	-.005	-.012	.021	.058	.176			
7.Behavior Transparency	4.7	1.4	.02	.057	-.039	-.034	-.106	-.053		
8.Dominant Management	1.675	2.566	-.087	.043	.079	.246	.051	.369 <sup>b</sup>	.333 <sup>a</sup>	
9.Credible Threat	4.175	1.708	-.145	.372 <sup>b</sup>	.14	.285	.106	.38 <sup>b</sup>	.161	.267

Note: <sup>a</sup> P<.10; <sup>b</sup> P<.05; <sup>c</sup> P<.01

Table 4. Regression Result of the Relationship between economic mechanism, business expertise, relationship mechanism and the inter-partner credible threat

Variables	Inter-partner Credible threat		
	Model 1	Model 2	Model 3
1.Asset specificity	0.019(0.112)	0.024(0.142)	0.030(0.196)
2.Investment size	0.379(2.223)**	0.390(2.206)**	0.415(2.530)**
3.Organizational capabilities		0.176(1.173)	0.163(1.165)
4.Technological capabilities		0.301(2.023)*	0.254(1.803)*
5.Industrial experience		-0.004(-0.023)	-0.132(-0.859)
6. Low dependency			0.356(2.315)**
7.Behavioral transparency			-0.190(-1.279)
8.Dominant management			0.125(0.768)
R2	0.138	0.241	0.419
Adjusted R	0.091	0.129	0.269
F	2.95*	2.157*	2.790**

Note: \*: p < 0.05; \*\*: p < 0.01;\*\*\* p < 0.001

Standardized path estimate (t value)

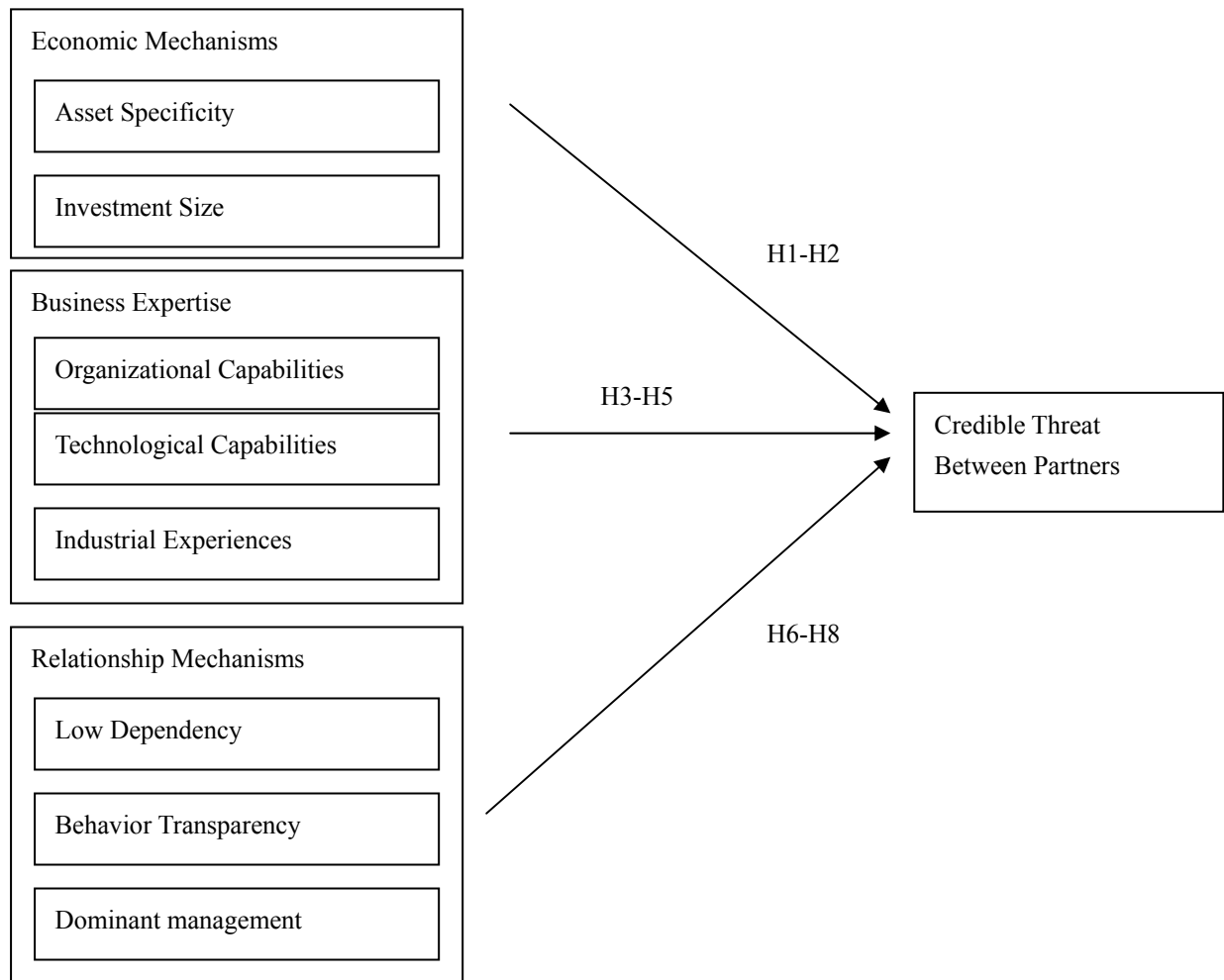


Figure 1. Research Framework

# Defining the Concepts of Technology and Technology Transfer: A Literature Analysis

Sazali Abdul Wahab

National Defence University of Malaysia, Kuala Lumpur 57000, Malaysia

Tel: 60-39-051-3060 E-mail: saw@upnm.edu.my

Raduan Che Rose

National Defence University of Malaysia, Kuala Lumpur 57000, Malaysia

E-mail: raduan@upnm.edu.my

Suzana Idayu Wati Osman

Felda Global Ventures Holdings

Received: July 12, 2011

Accepted: September 22, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p61

URL: <http://dx.doi.org/10.5539/ibr.v5n1p61>

## Abstract

The primary objective of this paper is to contribute to the existing literature by comprehensively reviewing the development, definitions and concepts of technology and technology transfer based on a literature review conducted on these wide research areas. This review covers various definitions and dimensions of both technology and technology transfer from the early technology concept i.e. from the development of Solow's (1957) growth model up to Maskus's (2003) definition and concept of technology and technology transfer. While the term 'technology' itself is difficult to interpret, observe or evaluate, as argued by many scholars, this review attempts to provide in-depth discussion and enhance understanding on these concepts from various perspectives, research background and disciplines. This review could shed some dynamic ideas for future researchers to further identify, conceptualize and understand the underlying theories and perspectives which strongly influence the previous, current and future concept of technology transfer.

**Keywords:** Definitions, Concept, Technology, Technology transfer, Malaysia

## 1. Introduction

The dynamic nature of technology has contributed to the existence of various definitions and concepts of technology by the previous studies which are related to technology transfer. The discussion on the concept of technology is crucial in getting a clear understanding of the nature of technology and examining what the technology consists of. Past studies have shown that defining the concept of technology is not easy (Reddy and Zhoa, 1990); therefore technology has been defined from different perspectives. Existing studies on technology transfer and international technology transfer have attracted researchers from cross-section of disciplines including organizational management, political science, economics, sociology, anthropology, marketing and recently management of technology (Cusumano and Elenkov, 1994; Zhoa and Reisman, 1992). The term 'technology' is inherently abstract concept which is difficult to interpret, observe and evaluate (Blomstrom and Kokko, 1998). Regardless of the extensive research done on this subject, many of the literatures are fragmented along different specialties and generally there is no commonly accepted paradigm (Reddy and Zhoa, 1990). Lan and Young (1996) stress that the technology definition is varied according to authors and context of disciplines. Because of this the concepts, variables and measures relevant to the study are different from one study to another (Kumar et. al, 1999). Therefore, the main objective of this paper is to contribute to the existing literature by comprehensively reviewing the development, definitions and concepts of technology and technology transfer.

## 2. The Definition and Concept of Technology

Past researchers have viewed and defined the term 'technology' from many perspectives and this has influenced the research design and results, negotiations around a transfer and government policies in general (Reddy and Zhoa, 1990).

Thus, the term technology has been given various definitions by previous literatures. According to Kumar et. al (1999) technology consists of two primary components: 1) a physical component which comprises of items such as products, tooling, equipments, blueprints, techniques, and processes; and 2) the informational component which consists of know-how in management, marketing, production, quality control, reliability, skilled labor and functional areas. The earlier definition by Sahal (1981) views technology as 'configuration', observing that the transfer object (the technology) relies on a subjectively determined but specifiable set of processes and products. The current studies on the technology transfer have connected technology directly with knowledge and more attention is given to the process of research and development (Dunning, 1994). By scrutinizing the technology definition, there are two basic components that can be identified: 1) 'knowledge' or technique; and 2) 'doing things'. Technology is always connected with obtaining certain result, resolving certain problems, completing certain tasks using particular skills, employing knowledge and exploiting assets (Lan and Young, 1996). The concept of technology does not only relate to the technology that embodies in the product but it is also associated with the knowledge or information of its use, application and the process in developing the product (Lovell, 1998; Bozeman, 2000).

The early concept of technology as information holds that the technology is generally applicable and easy to reproduce and reuse (Arrow, 1962). However, Reddy and Zhoa (1990) contend that the early concept of technology contradicts with a strand of literatures on international technology transfer which holds that "technology is conceived as firm-specific information concerning the characteristics and performance properties of the production process and product design". They further argue that the production process or operation technology is embodied in the equipment or the means to produce a defined product. On the other hand, the product design or product technology is that which is manifested in the finished product. Pavitt (1985) suggests that technology is mainly differentiated knowledge about specific application, tacit, often uncodified and largely cumulative within firms. Thus, based on this argument, technology is regarded as the firm's 'intangible assets' or 'firm-specific' which forms the basis of a firm's competitiveness and will generally release under special condition (Dunning, 1981). Tihanyi and Roath (2002) propose that technology can include information that is not easily reproducible and transferable. Based on this argument technology is seen as "tacit knowledge (Polanyi, 1967) or firm-specific, secrets or knowledge known by one organization" (Nonaka, 1994).

Technology as the intangible assets of the firm is rooted in the firms routines and is not easy to transfer due to the gradual learning process and higher cost associated with transferring tacit knowledge (Rodasevic, 1999). Valuable technological knowledge which is the intangible assets of the firm is never easily transferred from one firm to another because the technological learning process is needed to assimilate and internalized the transferred technology (Lin, 2003). Rosenberg and Frischtak (1985) also consider technology as firm-specific information concerning the characteristics and performance properties of production processes and product designs; therefore technology is tacit and cumulative in nature. Burgelman et al. (1996) refer technology as the theoretical and practical knowledge, skills, and artifacts that can be used to develop products and services as well as their production and delivery systems. Technology is also embodied in people, materials, cognitive and physical processes, facilities, machines and tools (Lin, 2003). Based on Sahal's (1981) concept, Bozeman (2000) argues that technology and knowledge are inseparable simply because when a technological product is transferred or diffused, the knowledge upon which its composition is based is also diffused. The physical entity cannot be put to use without the existence of knowledge base which is inherent and not ancillary.

MacKenzie and Wajcman (1985) define technology as the integration of the physical objects or artifacts, the process of making the objects and the meaning associated with the physical objects. These elements are not distinctive and separable factors but form a 'seamless web' that constitutes technology (Woolgar, 1987). In defining the term technology, all the three elements must be understood as being inter-connected to each other and a change in one element will affect the other two elements. The latest definition given by Mascus (2003) has broadened the concept of technology where technology is defined as 'the information necessary to achieve a certain production outcome from a particular means of combining or processing selected inputs which include production processes, intra-firm organizational structures, management techniques, and means of finance, marketing methods or any of its combination'. Other scholars such as Tepstra and David (1985) suggest that technology as a cultural system concerned with the relationships between humans and their environment. From the systems perspective Afriyie (1988) defines technology as encompassing: 1) the basic knowledge sub-system; 2) the technical support system (software); and 3) the capital-embodied technology (hardware). This perspective views that technology recognizes the need to identify the different elements of a particular country's technology that are complementary and mutually reinforcing. The previous studies done by the researchers have offered various definitions and concepts of technology from different disciplines, contexts and perspectives. Table 1 below shows a list of definitions and concepts of technology (in a chronological order) which was gathered from the previous literatures.



Insert Table 1 Here

Apart from understanding the concept of technology, the classification of technology is also crucial in explaining the various kinds of technologies that embody in the product, production processes and human capital of the firm. Reddy and Zhoa (1990) in their extensive review of technology transfer literature have constructed taxonomies of technology from the previous literatures. The early taxonomy of technology was developed by Mansfield (1975) who used “embodied” and “disembodied” technology classification. The classification was later further extended by Madeuf (1984) to include capital embodied, human embodied and disembodied technology. Hall and Johnson (1970) suggest the use of “product-embodied”, “process-embodied” and “person-embodied” technology classification rather than the classification based on “general”, “system-specific”, and “company specific” technology. General technology includes technical information which is common to companies in the same activity. System specific technology corresponds to knowledge and know-how develops for solving particular industrial problems. Company specific technology covers the corporate skills and capabilities from general activity and experience of each individual firm. Robock (1980) and Chudson (1971) have constructed technology taxonomy by separating product designs, production techniques and managerial functions. Madeuf (1984) suggests a distinction between “alienated” technology and “socialized” technology. Alienated technology includes information which is not free such as secret know-how. Conversely, “socialized technology” does not imply any specific transaction.

### 3. Defining the Concept of Technology Transfer

The definitions and concepts of technology transfer have been discussed in many different ways based on the disciplines of research and according to the purposes of the research (Bozeman, 2000). Gibson and Smilor, (1991) view technology transfer is often a chaotic, disorderly process involving groups and individuals who may hold different views about the value and potential use of the technology. According to them technology often has no definitive meaning or value. Researchers, developers, and users are likely to have different perceptions about the technology. A review of literature on technology transfer reveals that technology transfer is a complex, difficult process even when it occurs across different functions within a single product division of a single company (Zaltman et al., 1973; Kidder, 1981; Smith and Alexander, 1988). Technology transfer is commonly acknowledged to be a complex process that needs time to evolve (Agmon and von Glinow, 1981).

Nevertheless, the economic theories for example Solow’s (1957) growth model, have often treated technology as given that is embodied in products or processes; where technologies that resemble blueprint, machines, or materials are easily replicated and transferred (Lin, 2003). The literatures on technology transfer and international technology transfer are extensive and varied in perspective from various disciplines which include political science, economics, sociology, public policy, marketing and management of technology (Kumar et al., 1999). The issues that have been investigated, among other, are technology transfer process, appropriateness of technology, cooperation and conflict between transfer countries, the success of technology transfer, and the social and economic benefits of technology transfer for both suppliers and recipient countries (Katz, 1985; Lall, 1982).

Past literatures have referred technology transfer as the transmission of know-how to suit local conditions, with effective absorption and diffusion both within and across countries (Chung, 2001; Kanyak, 1985). Other early researchers for example Baranson (1970) defines technology transfer as transmission of know-how (knowledge) which enable the recipient enterprise to manufacture a particular product or provide a specific service. As compared to the sale of machinery and equipment, the transfer of technology requires a sustained relationship between two enterprises over a period of time to enable the receiving enterprise to produce the product with the desired level of quality standards and cost efficiency (Reddy and Zhoa, 1990). This is consistent with the earlier argument by Chesnais (1986) who argues that technology transfer does not only transfer the technical know-how (knowledge) required to produce the product to the recipient but also the capacity to master, develop and later produce autonomously the technology underlying the products. In the context of developing countries, Hoffman and Girvan (1990) argue that technology transfer needs to be perceived in terms of achieving three core objectives: 1) the introduction of new techniques by means of investment of new plants; (2) the improvement of existing techniques and (3) the generation of new knowledge.

Since the term “technology transfer” provides many dimensions, it has often been used to describe the process by which ideas and concepts are moved from the laboratory to marketplace (Phillips, 2002; Williams & Gibson, 1990), the transfer and knowledge and concept from developed to less technologically developed countries (Derakhshani, 1983; Putranto et al., 2003) and the transfer of inventive activities to secondary users (Van Gigch, 1978). Autio and Laamanen (1995) suggest a broader definition by proposing that technology transfer involves an intentional, goal-oriented interaction between two or more social entities, during which the pool of technological knowledge remains stable or increases through the transfer of one or more components of technology. Levin (1996) considers

technology transfer as the application of scientific principles to solve practical problems. From the social science perspective Levin (1993) defines technology transfer as a socio-technical process implying the transfer of cultural skills accompanying the movement of machinery, equipment and tools. This definition includes the transfer of the physical movement of artifacts and the embedded cultural skills. Majority of the previous studies have defined technology transfer as the transmission or movement of knowledge as a process. It involves the process how an organization or a country transfers scientific or technological achievements, new uses for technology, designs, and the technical knowledge that can be used in production (Chun 2007). Technology can also be transferred from one place to another or from a university to an enterprise (Solo and Rogers, 1972). The process that involves does not only concern about the transmission of knowledge but it is also relate to a learning process where technological knowledge is continually accumulated into human resources that are engaged in production activities. A successful technology transfer will eventually lead to a deeper and wider accumulation of knowledge (Shiowattana, 1991).

The technology transfer concept is not only concern about the transfer of technological knowledge or information but also the technology recipient's capability to learn and absorb technology into the production function (Maskus, 2003). Das (1987) argues that technology transfer can be of two types: 1) production of new product (product or embodied technology transfer); and 2) more efficient production of existing products (process or disembodied technology transfer). Hall and Johnson (1970) define technology transfer as technology system in terms of whether it is embodied in people (person-embodied), things (product-embodied) or processes (process-embodied). Farhang (1997) suggests that transfer of technologies in cases of manufacturing processes requires not only the transfer of technological knowledge in the form of process sheets, blueprints, products, and materials specification but also the transfer of know-how of high-calibre engineering and technical personnel.

In their extensive review on technology transfer literature from various disciplines, Zhoa and Reisman (1992) view that economists often define technology transfer on the basis of the properties of generic knowledge where the main focus is on variables that relate to production and design (Arrow, 1969; Dosi, 1988). For the sociologist, they tend to link technology transfer to innovation and view technology as 'a design for instrumental action that reduces the uncertainty of cause-effect relationships involved in achieving a desired outcome' (Rogers, 1962; Rogers and Shoemaker, 1971). The anthropologists tend to broadly view technology transfer within the context of cultural change and how technology affects changes. Zhoa and Reisman (1992) identify that bulk of the technology transfer literatures have also been contributed by the management researchers. They argue that business disciplines tend to concentrate on issues such as stages of technology transfer, design and related stages and sales (Teese, 1976; Lake 1979). On the other hand, the management researchers tend to focus on intra-sector transfer and relationships between technology transfer and strategy (Rabino, 1989; Chiesa and Manzini, 1996; Laamanen and Autio, 1996; Lambe and Spekman, 1997). Most of the literatures on management have shifted their focus to alliances among enterprises and how alliances are crucial to the development of technology transfer (Zhoa and Reisman, 1992). Table 2 below shows a list of technology transfer's definitions and concepts which was gathered from various literatures on technology transfer.

Insert Table 2 Here

#### **4. Technology Transfer and Knowledge Transfer**

Based on the above definitions and concepts gathered from various literatures, the area of technology transfer is wide and dynamic. The numbers of literatures on the subject are voluminous, extensive and varied in perspectives (Kumar et al., 1999; Zhoa and Reisman, 1992). A review of literature reveals that past studies have made little attempt to explain the difference between knowledge transfer and technology transfer. Many of the studies do not draw a clear line between knowledge and technology transfer because most of the studies have regularly applied the term interchangeably in both technology transfer and knowledge transfer literatures; where majority have treated knowledge transfer and technology transfer as having similar meaning. Based on various definitions from different disciplines of research and background, majority of the researchers have affirmed that technology transfer is closely associated with the transfer of information, know-how, technical knowledge which is embodied in the products, processes and managements. This is obviously because of the critical element of knowledge that underlies technology transfer (Hall and Johnson, 1970; Kanyak, 1985; Shiowattana, 1987; Das, 1987; Williams and Gibson, 1990; Hayden, 1992; Gibson and Rogers, 1994). Other definitions of technology transfer, for example Grosse (1996) makes direct reference to knowledge as elements underlying technology transfer of product technology, process technology and management technology.

There are many researchers who have attempted to explain, directly or indirectly, the relationship between technology transfer and knowledge transfer and some even tried to draw distinction between the two concepts. Kogut and Zander (1992,1993), in their study on knowledge transfer within the multinationals (MNCs), use both terms interchangeably to establish a close association between technology transfer and knowledge transfer when suggesting that technology

transfer within MNCs can be explained by the attributes of knowledge such as tacitness, codifiability and teachability. Sinani and Meyer (2004), when studying the spillovers of technology transfer from FDI in Estonia, make no distinction between technology transfer and knowledge transfer. Sung and Gibson (2000), in their study on levels and keys factor in knowledge and technology transfer, connote technology and knowledge transfer to have similar meaning. They suggest that knowledge and technology transfer as the movement of knowledge and technology through some channels from one individual or organization to another. Past studies have suggested that technology and knowledge are inseparable. For example Sahal (1981, 1982) argues that technology as 'configuration', observing that the transfer object, the technology must rely on a subjectively determined but specifiable set of processes and products. It is no longer sufficient to simply focus on the product because it is not only the product that is being transferred but the knowledge of its use and application which are embedded in the products.

Bozeman (2000), in his study on technology transfer and public policy, states that the approach by Sahal (1981, 1982) has resolved a major analytical problem in distinguishing the technology and knowledge transfer. Both technology and knowledge transfer are inseparable because when a technological product is transferred or diffused the knowledge upon which its composition is based is also transferred (Bozeman, 2000). A recent study by Li-Hua (2006) on the effectiveness of technology transfer in China indicates that the technology will not occur without knowledge transfer as knowledge is the key to control technology. Simonin (1999b), in the study of transfer of marketing know-how in strategic alliance, suggests that study on knowledge transfer turn almost invariably to technology transfer when empirical investigation is in order. Studies have shown that the tendency of the current studies have connected technology directly with knowledge (Dunning, 1994). In the context of technology transfer through FDI, Kogut and Zander (1993) have explicitly indicated foreign direct investment is the transfer of knowledge, which embodies a firm's advantage, underlies technology, production, marketing or other activities. Although technology transfer and knowledge transfer has been regularly used interchangeably in many literatures since they are highly interactive, however, they serve different purposes. Gopalakrishnan and Santoro (2004) distinguish technology transfer and knowledge transfer in term of their purposes when they argue that knowledge transfer focuses on a broader and have more inclusive construct which is directed more towards the "why" for change, whereas technology transfer focuses on a narrow and more targeted construct that usually embodies certain tools for changing the environment. Even though there are distinctions between their purposes, majority of researchers agree that knowledge is the critical element that underlies technology transfer.

## 5. Conclusion

Based on the above discussion, both technology and technology transfer concepts encompass many different interpretations and views depending on the organizations' objectives, research background, researchers, developers, users, research areas and disciplines and underlying perspective (theories). Therefore, various parties are likely to hold different views and perceptions on these two concepts. This review could shed some dynamic ideas for future researchers to further identify, conceptualize and understand the underlying theories and perspectives which strongly influence the previous, current, and future concept of technology transfer. Such understanding is necessary to enable the interested parties (such as private sectors, government departments, academics, researchers and students) to relate with the practical and empirical aspects of various relevant theories which explain technology transfer concept. The simple explanation is that different perspectives/theories underlying technology transfer will have different theoretical arguments and insights, research problems, constructs, variables, and measurements.

## References

- Afriyie, K. (1988). A Technology Transfer Methodology for Developing Joint Production Strategies in Varying Systems, In F. J. Contractor and P. Lorange (Eds.). *Cooperative Strategies in International Business*, 81-95.
- Agmon, T., & von Glinow, M. (1991). *Technology Transfer in International Business*, Oxford: Oxford Universities Press.
- Arrow, K. (1969). Classificatory Notes on the Production and Transmission of Technological Knowledge. *American Economic Review*, 244-250.
- Arrow K. J. (1962). *Economic Welfare and the Allocation of Resources for Invention*, in: R. R. Nelson, *The Rate and Direction of Inventive Activity*. Princeton University Press, New Jersey.
- Autio, E., & Laamanen, T. (1995). Measurement and Evaluation of Technology Transfer: Review of Technology Transfer Mechanisms and Indicators. *International Journal of Technology Transfer Management*, 10(6), p. 643-664.
- Baronson, J. (1970). Technology Transfer through the International Firms. *American Economic Review Papers and Proceedings*, 435-440.

- Blomstrom, M., & Kokko, A. (1998). Multinational Corporations and Spillovers. *Journal of Economic Surveys*, 12(3), 247-77. <http://dx.doi.org/10.1111/1467-6419.00056>
- Bozeman, B. (2000). Technology Transfer and Public Policy: A Review of Research and Theory. *Research Policy*, 29, 627-655. [http://dx.doi.org/10.1016/S0048-7333\(99\)00093-1](http://dx.doi.org/10.1016/S0048-7333(99)00093-1)
- Burgelman, R. A., Maidique, M. A., & Wheelwright, S. C. (1996). *Strategic Management of Technology and Innovation*. (2nd ed.). Chicago: I. L, Irwin.
- Cameron, E. H. (1960). *Samuel Slater: Father of American Manufacturers*, Portland, MA: The Bond Wheelwright Company.
- Caves, R. E. (1974). Multinational Firms, Competition and Productivity in Host-Country Markets. *Economica*, 41, 176-193. <http://dx.doi.org/10.2307/2553765>
- Chesnais, F. (1986). Science, Technology and Competitiveness. *OECD STI Review*, 1.
- Chiesa, V., & Manzini, R. (1996). Managing Knowledge Transfer within Multinational Firms. *International Journal of Technology Management*, 12(4), 462-476.
- Chudson, W. A. (1971). The international transfer of commercial technology to developing countries. *UNITAR Research Reports* No. 13 New York.
- Chun, C. L. (2007). Modeling the Technology Transfer to Taiwan from China. *International Research Journal of Finance and Economics*, 7, 48-66.
- Chung, W. (2001). Identifying Technology Transfer in Foreign Direct Investment: Influence of Industry Conditions and Investing Firm Motives. *Journal of International Business Studies*, 32 (2), 211-229. <http://dx.doi.org/10.1057/palgrave.jibs.8490949>
- Cusumano, M. A., & Elenkov, D. (1994). Linking international technology transfer with strategy and management: a literary commentary. *Research Policy*, 23(2), 195-215. [http://dx.doi.org/10.1016/0048-7333\(94\)90053-1](http://dx.doi.org/10.1016/0048-7333(94)90053-1)
- Das, S. (1987). Externalities and Technology Transfer through Multinational Corporations. *Journal of International Economics*, 22, 171-182. [http://dx.doi.org/10.1016/0022-1996\(87\)90028-6](http://dx.doi.org/10.1016/0022-1996(87)90028-6)
- Daghfous, A. (2004). An Empirical Investigation of the Roles of Prior Knowledge and Learning Activities in Technology Transfer. *Technovation*, 24, 939-953. [http://dx.doi.org/10.1016/S0166-4972\(03\)00059-2](http://dx.doi.org/10.1016/S0166-4972(03)00059-2)
- Derakhshani, S. (1983). Factors affecting success in international transfers of technology — A synthesis, and a test of a new contingency model. *Developing Economies* 21 (1983), 27-45.
- Dosi, G. (1988). The Nature of the Innovation Process. In: Dosi, G. et al. (Eds.). *Technical Change and Economic Theory*. London: Pinter Publishers.
- Dunning, J. H. (1994). Multinational Enterprises and the Global of Innovatory Capacity. *Research Policy*, 23, 67-88. [http://dx.doi.org/10.1016/0048-7333\(94\)90027-2](http://dx.doi.org/10.1016/0048-7333(94)90027-2)
- Dunning, J. H. (1981). Alternative Channels and Modes of International Resource Transmission, in T. Sagafi-Nejad, Perlmutter, H., & Moxon, R. (Eds.). *Controlling International Technology Transfer: Issues, Perspectives and Implications*. New York: Permagon.
- Ernst, D., & Kim, L. (2002). Global Production Network, Knowledge Diffusion, and Local Capability Formation. *Research Policy*, 31, 1417-1429. [http://dx.doi.org/10.1016/S0048-7333\(02\)00072-0](http://dx.doi.org/10.1016/S0048-7333(02)00072-0)
- Farhang, M. (1997). Managing technology transfer to China: conceptual framework and operational guidelines. *International Marketing Review*, 14(2), 92 - 106. <http://dx.doi.org/10.1108/02651339710170195>
- Foster, G. (1962). *Traditional Cultures and the Impact of Technological Change*. New York: Harper Publishing.
- Galbraith, J. K. (1972). *The New Industrial State*. London, UK: Andre Deutsch.
- Gibson, D. V., & Rogers, E. M. (1994). *R&D Collaboration on Trial: The Microelectronics and Computer Technology Corporation*. Harvard Business Press.
- Gibson, D. V., & Smilor, W. (1991). Key Variables in Technology Transfer: A field – Study Based on Empirical Analysis. *Journal of Engineering and Technology Management*, 8, 287-312. [http://dx.doi.org/10.1016/0923-4748\(91\)90015-J](http://dx.doi.org/10.1016/0923-4748(91)90015-J)
- Gopalakrishnan, S., & Santoro, M. D. (2004). Distinguishing Between Knowledge Transfer and Technology Transfer Activities: The Role of Key Organizational Factors. *IEEE Transaction on Engineering Management*, 51(1), 57-69. <http://dx.doi.org/10.1109/TEM.2003.822461>

- Goulet, D. (1989). *The Uncertain Promise: Value Conflicts in Technology Transfer*. New York: New Horizons Press.
- Grosse, R. (1996). International Technology Transfer in Services. *Journal of International Business Studies*, 27(4), 781-800. <http://dx.doi.org/10.1057/palgrave.jibs.8490153>
- Hall, G. R., & Johnson, R. E. (1970). *The Technology Factors in International Trade*. New York: Columbia University Press.
- Hawkins, R., & T. Gladwin. (1981). *Conflicts in the international transfer of technology: a US home country view*. In Sagafi-Nejad et al.
- Hawthorne, E. P. (1971). *The Transfer of Technology*. Paris: OEDC.
- Hayden, F. G. (1992). *Corporate Networks, A US Case Study*. Rotterdam: Erasmus University, Conference on the Dynamics of the Firm.
- Hoffman, K., & Girvan, N. (1990). *Managing International Technology Transfer: A Strategic Approach for Developing*, IDRC.
- Jeannet, J. P., & Liander, B. (1978). Some patterns in the transfer of technology within multinational corporations. *J. Int. Business Stud*, 3, 108–118. <http://dx.doi.org/10.1057/palgrave.jibs.8490672>
- Jones, R. (1970). *The Technology Factors in International Trade*. New York: Universities Bureau of Economics Research.
- Katz, J. M. (1984). *Echnological innovation, industrial organization and comparative advantages of Latin American metalworking industries*. London: Macmillan.
- Kanyak, E. (1985). *Transfer of Technology from Developed Countries: Some Insights from Turkey*. CT: Quarum Books.
- Kidder, T. (1981). *The Soul of a Machine*, Massachusetts: Little Brown.
- Kogut, B., & Zander, U. (1993). Knowledge of the Firm and the Evolutionary Theory of the Multinational Corporation. *Journal of International Business Studies*, 24 (4), 625-646. <http://dx.doi.org/10.1057/palgrave.jibs.8490248>
- Kogut, B., & Zander, U. (1992). Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology. *Organization Science*, 3(3), 383-97. <http://dx.doi.org/10.1287/orsc.3.3.383>
- Kumar, V., Kumar, U., & Persaud, A. (1999). Building Technological Capability through Importing Technology: The Case of Indonesian Manufacturing Industry. *Journal of Technology Transfer*, 24, 81-96. <http://dx.doi.org/10.1023/A:1007728921126>
- Laamanen, T., & Autio, E. (1996). Dominant Dynamic Complementarities and Technology-Motivated Acquisitions of New Technology-based Firms. *International Journal of Technology Management*, 12 (7–8), 769–786.
- Lambe, C. J., & Spekman, R. E. (1997). Alliances, External Technology Acquisition, and Discontinuous Technological Change. *Journal of Product Innovation Management*, 14 (2), 102–116. [http://dx.doi.org/10.1016/S0737-6782\(96\)00077-X](http://dx.doi.org/10.1016/S0737-6782(96)00077-X)
- Lake, A. (1979). Technology Creation and Technology Transfer by Multinational Firms. *Research in International Business and Finance*, 1 (2), 137–177.
- Lall, S. (1982). *Technological learning in the Third World: Some implications of technology exports*. London: Frances Pinter.
- Lan, P., & Young, S. (1996). International Technology Transfer Examined at Technology Component Level: A Case Study in China. *Technovation*, 16 (6), 277-286. [http://dx.doi.org/10.1016/0166-4972\(96\)00005-3](http://dx.doi.org/10.1016/0166-4972(96)00005-3)
- Levin, M. (1996). Technology Transfer in Organizational Development: An Investigation into the Relationship between Technology Transfer and Organizational Change. *International Journal of Technology Management*, 2 (3), 297-308.
- Levin, M. (1993). Technology Transfer as a Learning and Development Process: An Analysis of Norwegian Programmes on Technology Transfer. *Technovation*, 13 (8), 497-518. [http://dx.doi.org/10.1016/0166-4972\(93\)90065-4](http://dx.doi.org/10.1016/0166-4972(93)90065-4)
- Li-Hua, R. (2006). Examining the Appropriateness and Effectiveness of Technology Transfer in China. *Journal of Technology Transfer in China*, 1 (2), 208-223. <http://dx.doi.org/10.1108/17468770610670992>

- Lin, W. B. (2003). Technology Transfer as Technological Learning: A Source of Competitive Advantage for Firms with limited R & D Resources. *R & D Management*, 33 (3), 327-341. <http://dx.doi.org/10.1111/1467-9310.00301>.
- Lovell, S. A. (1998). *Technology Transfer: Testing a Theoretical Model of the Human, Machine, Mission, Management and Medium Components*. Unpublished Msc. thesis. Cranfield: College of Aeronautics, Cranfield University.
- Mansfield, E. (1975). International Technology Transfer: Forms, Resource Requirement and Policies. *American Economic Review*, 65, 372-376.
- MacKenzie, D., & Wajcman, J. (1985). *The Social Shaping of Technology: How the Refrigerator Got Its Hum*, Milton Keynes: Open University Press.
- Madeuf, B. (1984). International technology transfers and international technology payments: definitions, measurements and firms' behaviour. *Research Policy*, 13(3).
- Maskus, K. E. (2003). *Encouraging International Technology Transfer*. UNCTAD/ICTSD Capacity Building Project. On Intellectual Property Rights and Sustainable Development.
- Merrill, R. (1968). The Role of Technology in Cultural Evolution. *Social Biology*, 19 (3), 246–256.
- Methe, D.T. (1991). *Technology Competition in Global Industries*. New York: Quarum Books.
- Natarajan, & Tan, J. M. (1992). *The Impact of MNC Investments in Malaysia, Singapore and Thailand*. Singapore: Institute of Southeast Asian Studies.
- Nonaka, I. (1994). A Dynamic Theory of Organizational Knowledge Creation. *Organization Science*, 5, 14–37. <http://dx.doi.org/10.1287/orsc.5.1.14>
- Pacey, A. (1983). *The Culture of Technology*. Oxford: Blackwell.
- Pavitt, K. (1985). Patent Statistics as Indicators of Innovative Activities: Possibilities and Problems. *Scientometrics*, 7, 77–99. <http://dx.doi.org/10.1007/BF02020142>
- Phillips, R. (2002). Technology Business Incubators: How Effective Is Technology Transfer Mechanisms? *Technology in Society*, 24 (3), 299-316. [http://dx.doi.org/10.1016/S0160-791X\(02\)00010-6](http://dx.doi.org/10.1016/S0160-791X(02)00010-6)
- Polanyi, M. (1967). *The Tacit Dimension*. NY: Anchor, Garden City.
- Putranto, K., Stewart, D., & Moore, G. (2003). International Technology Transfer of Technology and Distribution of Technology Capabilities: The Case of Railway Development in Indonesia. *Technology in Society*, 25 (1), 42-53. [http://dx.doi.org/10.1016/S0160-791X\(02\)00035-0](http://dx.doi.org/10.1016/S0160-791X(02)00035-0)
- Rabino, S. (1989). High Technology Firms and Factors Influencing Transfer of R & D Facilities. *Journal of Business Research*. 18 (3), 297–312.
- Radosevic, S. (1999). *International Technology Transfer and Catch-up in Economic Development*. Nothampton, MA: Edward Edgar Publishing.
- Reddy, N. M., & Zhao, L. (1990). International Technology Transfer: A Review. *Research Policy*, 19, 285-307. [http://dx.doi.org/10.1016/0048-7333\(90\)90015-X](http://dx.doi.org/10.1016/0048-7333(90)90015-X)
- Reisman, A. (2006). Transfer of Technologies: A Cross-disciplinary Taxonomy. *The International Journal of Management Science*, 33, 189-202.
- Robock, S. H. (1980). *The International Technology Transfer Process*. Washington D.C: National Academy of Sciences.
- Roessner, J. D. (1993). What Companies Want From the Federal Labs. *Issues in Science and Technology*, 10 (1), 37-42.
- Rogers, E. M. (1962). *Diffusion of Innovations*. New York: The Free Press of Glencoe.
- Rogers, E. M., & Shoemaker, F. F. (1971). *Communication of Innovations. A Cross Cultural Approach*. New York: Free Press.
- Rosenberg, N., & Frischtak, C. (1985). *International Technology Transfer: Concepts, Measures and Comparisons*. New York: Praeger.
- Sahal, D. (1982). *The Transfer and Utilization of Technical Knowledge*. Lexington: Lexington Publishing.
- Sahal, D. (1981). Alternative Conceptions of Technology. *Research Policy*, 10, 2-24. [http://dx.doi.org/10.1016/0048-7333\(81\)90008-1](http://dx.doi.org/10.1016/0048-7333(81)90008-1)

- Sazali, A.W., & Raduan, C. R. (2011). *The Inter Firm Technology Transfer in Malaysia – A Holistic Approach*. Saarbrucken: VDM Verlag Publishing.
- Sazali A. W., & Raduan C. R. (2011). *The Handbook of Inter Firm Technology Transfer – An Integrated Knowledge-Based View and Organizational Learning Perspective*. Germany: LAP LAMBERT Academic Publishing.
- Sinani, E., & Meyer, K. E. (2004). Spillovers of Technology Transfer from FDI: The Case of Estonia. *Journal of Comparative Economics*, 32, 445-466. <http://dx.doi.org/10.1016/j.jce.2004.03.002>
- Simonin B. L. (1999b). Transfer of marketing know-how in international strategic alliances: an empirical investigation of the role and antecedents of knowledge ambiguity. *Journal of International Business Studies*, 30(3), 463–90. <http://dx.doi.org/10.1057/palgrave.jibs.8490079>
- Sherman, G. (1981) *Technology Transfer Innovation and International Competitiveness*, New York: John Wiley & Sons.
- Shiowattana, P. (1991). *Transfer of Japanese Technology and Management to the ASEAN Countries*. Tokyo: University of Tokyo Press.
- Smith, D. K., & Alexander, B. C. (1988). *Fumbling the Future: How Xerox Invented, the Ignored, the First Personal Computer*. New York: William Morrow.
- Solo, R. A., & Rogers, E. M. (1972). *Inducing Technological Change for Economic Growth and Development*. East Lansing: Michigan State University Press.
- Solow, R. M. (1957). Technical Change and the Aggregate Production Function. *Review of Economics Statistics*, 39 (3), 312-320. <http://dx.doi.org/10.2307/1926047>
- Strassman, W. P. (1968). *Technological Change and Economic Development: The Manufacturing Process of Mexico and Puerto Rico*. Ithaca: Cornell University Press.
- Sung, T. K., & Gibson, D. V. (2000). Knowledge and Technology Transfer: Key Factors and Levels. *Proceeding of 4th International Conference on Technology Policy and Innovation*.
- Szulanski, G. (1996). Exploring Internal Stickiness: Impediments to the Transfer of Best Practice within the Firm, *Strategic Management Journal*, 17, 27–43.
- Techakanont, K., & Terdudonthan, T. (2004), Evolution of Inter-firm Technology Transfer and Technological Capability Formation of Local Parts Firms in the Thai Automobile Industry. *Journal of Technology Innovation*, 12 (2), 151-183. <http://dx.doi.org/10.1080/19761597.2004.9668602>
- Teece, D. (1986). Transaction Cost Economics and the Multinational Enterprise: An Assessment. *Journal of Economic Behavior and Organization*, 7, 21-46. [http://dx.doi.org/10.1016/0167-2681\(86\)90020-X](http://dx.doi.org/10.1016/0167-2681(86)90020-X)
- Teece, D. (1977). Time Cost Trade-off: Elasticity Estimates and Determinants for International Technology Transfer Projects. *Management Science*, 23 (8), 830-841. <http://dx.doi.org/10.1287/mnsc.23.8.830>
- Teese, D. (1976). *The Multinational and the Resource Cost of International Technology Transfer*. Ballinger: Cambridge, MA.
- Tepstra, V., & David, K. (1985). *The Cultural Environment of International Business*, Cincinnati, OH: Southwestern Publishing Co.
- Tihanyi, L., & Roath, A. S. (2002). Technology Transfer and Institutional Development in Central and Eastern Europe. *Journal of World Business*, 37, 188-198. [http://dx.doi.org/10.1016/S1090-9516\(02\)00077-9](http://dx.doi.org/10.1016/S1090-9516(02)00077-9)
- Van Gigch, J. P. (1978). *Applied General Systems Theory*. New York, NY: Harper and Row.
- William, F., & Gibson, D. V. (1990). *Technology Transfer: A Communication Perspective*. Sage: Beverly Hills, CA.
- Woolgar, S. (1987). *Reconstruction Man and Machine: A Note on Sociological Critiques of Cognitivism*. Cambridge, MA: MIT press.
- Zaltman, G., Dundan, R., & Holbeck, J. (1973). *Innovation and Organizations*, New York: Wiley.
- Zhao, L. M., & Reisman, A. (1992). Towards Meta Research on Technology Transfer. *IEEE Transaction on Engineering Management*, 39 (1), 13-21. <http://dx.doi.org/10.1109/17.119659>

Table 1. Various Definitions of Technology from Previous Literatures

Year	Scholars	Definitions
1968	Merrill	Technology connotes the practical arts, bodies of skills, knowledge and procedures for making, using, and doing useful things.
1968	Strassman	The tools, a stock-pile of utensils, but to a kind of tool-using behavior, a set of methods for making specific goods.
1970	Jones	The way in which the resources inputs are converted into commodities.
1971	Hawthorne	The application of science to solve well-defined problems.
1972	Galbraith	The systematic application of knowledge to practical tasks.
1976	Teese	A set of knowledge or experience related to the production of a product or the implementation of a process.
1981	Hawkins and Gladwin	The specialized knowledge pertaining to the production of the goods and services in organized economic activity, including the knowledge and skills required to manage a set of interrelated technical processes.
1983	Pacey	The application of scientific and other organized knowledge to practical tasks by ordered systems that involve people and organizations, living things, and machines.
1987	Woolgar	An integration process of physical objects, the process of making the objects and the meaning associated with the physical objects. These elements are not distinctive and separable factors, but form a seamless web that constitutes technology
1989	Goulet	The application of science because of their special relationship.
1991	Methe	A process where its origins and destination are connected and its dynamic nature is highlighted.
1992	OECD	A structure or a network due to various feedback loops between it and other sub-systems within a society, and to its obviously non-linear development projections
1992	Natarajan and Tan	The knowledge or expertise that is required in the production or assembly of a given good. Technology therefore embodied in the related machinery and utilized by a firm.
1996	Levin	Technology is not really a 'thing'; it is better characterized as an approach. It is the application of scientific principles to solve practical problems. Technology has been described as having three facets: material artifacts (things), the use of artifacts to pursue a goal, and the knowledge to use these artifacts.
1996	Burgelman et al.	The theoretical and practical knowledge, skills, and artifacts that can be used to develop products and services as well as their production and delivery systems. Technology is embodied in people, materials, cognitive and physical processes, facilities, machines and tools.
1998	Lovell	Technologies are separated into 'product technologies' (associated with the physical and engineering aspects of equipment) and 'process technologies' (associated with the processed by which problems are solved).
2002	Tihanyi and Roath	Information such as a patent, know-how or trade secrets. Conversely it can be modified as equipment, component assemblies/parts or as a final product. Production techniques/processes, which require necessary skills to apply different methods of production, represent a combination of tangible and intangible technology. Technology can also include information that is not easily reproducible or transferable.
2003	Maskus	The information necessary to achieve a certain production outcome from a particular means of combining or processing selected inputs which include production processes, intra-firm organizational structures, management techniques, and means of finance, marketing method or any of its combination. Technology may be codified in formulas, blueprints, drawings, and patent applications or uncoded in the sense of requiring implicit know-how on the part of personnel.
2006	Reisman	The development and application of tools, machines, materials and processes that help in solving human problems.

Source: Sazali and Raduan (2011)



Table 2. Various Definitions of Technology Transfer

Scholars	Viewpoints
Hall & Johnson (1970)	A technology system in terms of whether it is embodied in people (person-embodied), things (product-embodied) or processes (process-embodied).
Rogers (1962)	A process by which an organization adopts an innovation made by another organization.
UNCTAD(1973)	The act of transferring the needed technical knowledge that has been designed and managed.
Gigch (1978)	The transfer of 'inventive activities' to secondary users.
Jeannet & Liander (1978)	Technology transfer consists of any element or combination of research, development and engineering transferred across national borders.
Sherman (1981)	The application of technology to a new use or user.
Derakhsahani (1983)	An acquisition, development and utilization, of technological knowledge by a country other than in which this knowledge originated.
Kanyak (1985)	The transmission of know-how to suit local conditions, with effective absorption and diffusion both within and from one country to another.
Rodrigues (1985)	An application of new technology to a new use or user.
Tepstra & David (1985)	A cultural system concerned with the relationships between human and their environment.
Shiowattana (1987)	A learning process wherein technological knowledge is continually accumulated into human resources that are engaged in production activities; a successful technology transfer will eventually lead to a deeper and wider accumulation of knowledge.
Derakhshani (1987)	A country's acquisition, development and use of technical knowledge.
Das (1987)	Technology transfer can be the production of new product (product or embodied technology transfer) and more efficient production of existing products (process or disembodied technology transfer).
Hoffman & Girvan (1990)	Technology transfer needs to be perceived in terms of achieving three core objectives: the introduction of new techniques by means of investment of new plants; the improvement of existing techniques and the generation of new knowledge.
Williams & Gibson (1990)	The process of transferring the knowledge and concepts from developed to less-technically developed countries.
Hayden (1992)	The kind of knowledge that can be used as inputs, such as patents rights, scientific principles and R&D, but which must be able to be used to make products.
Zhoa & Reisman, (1992)	The <i>economists</i> tend to define technology on the basis of the properties of generic knowledge, focusing particularly on variables that relate to production and design. The <i>sociologists</i> tend to link technology transfer to innovation and to view technology, including social technology as a design for instrumental action that reduces the uncertainty of cause-effect relationships involved in achieving a desired outcome. The <i>anthropologists</i> tend to view technology transfer broadly within the context of cultural change and the ways in which technology affects change. The <i>business</i> disciplines tend to focus on stages of technology transfer, particularly relating design and production stages, as well as sales, to transfer. <i>Management</i> researchers are more likely than others to focus on intra-sector transfer and the relation technology transfer to strategy. The recent researchers have focused on alliances pertain to the development and transfer of technology.
Roessner (1993)	The movement of know-how, technical knowledge, or technology from one organizational setting to another.
Levin (1993)	A socio-technical process implying the transfer of cultural skills accompanying the movement of machinery, equipment and tools. Transfer of technology is both the physical movement of artifacts and also, at the same time, transfer of the embedded cultural skills.
Gibson & Roger (1994)	The application of information where the process usually involves moving a technological innovation from an R&D organization to a receptor organization.
Autio & Laamanen (1995)	An 'intentional, goal oriented interaction between two or more social entities, during which the pool of technological knowledge remains stable or increases through the transfer of one or more components of technology.
Farhang (1996)	Transfer of technologies in cases of manufacturing processes requires not only the transfer of technological knowledge in the form of process sheets, blueprints, products, and materials specification, but also the transfer of know-how of high-calibre engineering and technical personnel.
Phillips (2002)	The process by which ideas and concepts that move from the laboratory to the market place.
Mascus (2003)	Any process by which one party gains access to another's technical information and successfully learn and absorbs it into the production function.

Source: Szali and Raduan (2011)

# Importance of the Motivational Factors Affecting Employees Satisfaction

Gülten YURTSEVEN

Assist. Prof, Başkent University, Faculty of Commercial Sciences

Eskisehir yolu 20.km Ankara, Turkey

Tel: 90-312-234-1010 E-mail: gkonuk@baskent.edu.tr

Ali HALICI (Corresponding author)

Başkent University, Faculty of Commercial Sciences

Eskisehir yolu 20.km Ankara, Turkey

Tel: 90-312-234-1010 E-mail: ahalici@baskent.edu.tr

Received: August 8, 2011

Accepted: October 31, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p72

URL: <http://dx.doi.org/10.5539/ibr.v5n1p72>

## Abstract

The purpose of this study is to determine the causes of motivational problems related to the duties of employees. The scope of the study involved 4 and 5 star rated hotels around Ankara region in Turkey. Twenty-seven different factors were analyzed regarding employees' attitudes towards "importance" and "satisfaction" within the workplace. Results reveal that employees give more importance to behavioral approaches. Also, findings show that the least important issues that employees care about are being uninformed about job policy and working beyond the normal working hours.

**Keywords:** Motivation, Job satisfaction, Motivational problems, Motivation in hotels

## 1. Introduction

The increasing importance of efficiency is a factor affecting the management of contemporary businesses in today's world. Therefore it is vital for today's administrators to examine various employee motivation methods and determine which is the most successful. A business will perform inefficiently if it does not effectively utilize its human resources.

There are many theories about motivation that will be discussed below. However, it is not possible to identify a specific theory that provides a single universal reality. Motivation is a complex concept influenced by numerous individual and situational variables.

Motivation is "a process which starts or improves organizational behaviors, encourages an ongoing activity and directs activities towards specific targets" (Madsen, p. 46). According to Robbins (2001), motivation is the processes that account for an individual's intensity, direction, and persistence of effort toward attaining a goal (Robbins, p. 156).

### 1.1 Motivation Theories

Current theories address different variables. Some are directed at explaining turnover and job satisfaction, while others emphasize productivity. The theories also differ in their predictive strength, e.g., Need Theories, Goal-Setting Theory, Reinforcement Theory, Equity Theory and Expectancy Theory (Robbins, 2001; Koçel, 1995; Scott, Mitchell & Terence, 1982).

### 1.2 Job Satisfaction

Job satisfaction is a general attitude towards one's job (Schermerhorn, Hunt & Osborn 1997; Robbins, 2001). Motivation is a process of satisfying employees' different needs and expectations; therefore, administrators have to be aware of and analyze those unique, individual needs.

Administrators have the difficult task of actualizing performance above the current level of employees' and colleagues' performance. They have to increase employees' attention towards organizational targets and direct their behavior towards the achievement of corporate targets.

### *1.3 Motivation and Job Satisfaction in the Literature*

There are many studies that have analyzed the relationship between motivation and job satisfaction and its relationship between and among other related variables (George & Jones, 1996; Newstrom & David, 1993; Mullins, 1989). Low wages and salaries, physical working conditions, low-status positions and tiring jobs are among the common reasons that cause problems in service sector businesses. Also, the prejudice of not considering the job as an important duty or as a promising career exists among the employees.

There are various studies evaluating the link between culture and job satisfaction. Huang & Van de Vliert (2003) showed that the link between intrinsic job characteristics and job satisfaction is stronger in richer countries, countries with better governmental social welfare programs, more individualistic countries, and smaller power distance countries. Probst, Martocchio, Drasgow & Lawler (2000) predicted that the "empowerment and continuous improvement practices would be more congruent in some cultures than in others and that value congruence would result in job satisfaction based on the theoretical constructs of individualism-collectivism and power distance." Pellegrini & Scandura (2006) used a structural, equation modeling approach to investigate relationships among leader-member exchange (LMX), delegation, paternalism and job satisfaction in Turkish business organizations. Results suggest that delegation might not be an effective management tool in the Middle Eastern context. Firestone, Garza, & Harris (2005) examined the relationship between the Protestant work ethic (PWE) and job satisfaction and productivity in Mexico which has a highly collectivistic culture. Results indicate that those with higher PWE scores tend to gain a greater vote of confidence and respect from their workplace supervisors, which translated into higher assessments of their workplace productivity. Huang & Van de Vliert (2004) showed that job level is positively related to job satisfaction in individualistic countries, but not in collectivistic countries. Moreover, the positive relationship between job level and job satisfaction holds only for jobs with much opportunity to use one's skills and abilities, especially in individualistic countries. Job level is even negatively related to job satisfaction in jobs with little opportunity to use one's skills and abilities in collectivistic countries. Thomas & Pekerti (2003) examined the moderating affect of national culture on the relationship between job satisfaction and the exchange behaviors of employees.

Motivation and job-satisfaction area were determined (Milman, 1985; Standish, 1982; Noel, Hamel & Bootman, 1982; Katzell & Yankelovich, 1976). Research and theory on employee job satisfaction and well-being has increasingly concentrated on both intrinsic and extrinsic motivational factors. According to self-determination theory (Deci & Ryan, 1985), autonomy, relatedness, and competence are three intrinsic psychological needs that, if fulfilled in the workplace, will lead to greater satisfaction, performance, and general well-being (Deci & Ryan, 1985).

Another area of study is correlation between job satisfaction and motivational factors. Some of these studies questioned this relationship in different sectors. Tzeng (2002) showed that nurses have a work environment in which the work characteristics are known to be linked to job satisfaction and good outcomes. Becherer, Morgan & Richard (1982) studied the relationship between job characteristics of industrial salespersons and motivation and satisfaction. Hunt M, Head TC and Sorensen PF, (1982) analyzed job characteristics, job satisfaction, motivation and the role of context variables using hospital pharmacists. Issues such as job characteristics, job-satisfaction, motivation and satisfaction with growth using a sample of industrial engineers. Wahba (1978) studied motivation, performance and job satisfaction of librarians. Influence of perceived job-enrichment and goal characteristics on employee satisfaction, motivation, and performance is another study topic researched by Maillet in 1994. According to Ma & MacMillan (1999), workplace conditions positively affected teacher satisfaction. Of these conditions, administration control was the most important, followed by teaching competence and organizational culture.

Some other researchers analyzed the relationship between job satisfaction and various specific motivational factors. Pool (1997) examined the predictive values of substitutes of leadership, leadership behavior, and work motivation in relation to job satisfaction based on a self-report questionnaire. The results of independent regression analyses revealed that all but subordinate substitutes were significant predictors of job satisfaction. Tsai PCF, Yen YF, Huang LC and Huang IC (2007) revealed that the two criterion in job satisfaction "the relationship with colleagues" and "the relationship with the family" significantly influenced employees' motivation. Igalens & Roussel (1999) examined how the elements of total compensation might influence work motivation and job satisfaction. Lawler EE and Hall DT (1970) investigated the relationship between job characteristics, job involvement, satisfaction, and intrinsic motivation. Cummings TG and Bigelow J (1976) studied the relationship among job satisfaction, job involvement and intrinsic motivation. Among the three-attitudinal variables, Chiu (2000) found that pay satisfaction and job satisfaction could mediate the effect of positive affectivity on work motivation. Ilardi BC, Leone D, Kasser T and Ryan RM's (1993) showed that both employee and supervisor ratings of intrinsic motivational factors were significantly related to work satisfaction, psychological health, and self-esteem, after controlling for the extrinsic

factors of pay and job status. Orpen (1994) studied the interactive effects of work motivation and personal control on employee job-performance and satisfaction.

## 2. The Study

Based on the above literature search, the purpose of this study is to determine the causes of motivational problems related to the duties of personnel working in the hotels in Ankara. A selected 27 different factors were examined within the context of importance and satisfaction. The study also tried to determine which factors do the personnel consider as most important in its work environment and to what degree do those factors are satisfied.

This study was conducted in 4 and 5 star hotels situated in Ankara, Turkey. To insure the validity and reliability of the research, responses from as many 4 and 5 star-rated hotels as possible were used ( $n=12$  for five star hotels and  $n=6$  for four star hotel). The survey was only administered to the housekeeping staff in the hotels because of the difficulty of contacting the full complement of staff in the hotels and the possibility of variations in the results of different departments. One of the five star hotels decline participation in the survey because it was about to be sold. In 2 of the five star hotels the results gathered were not included in the results because personal relationships existed between a number of researchers and this could have biased the results. Therefore the actual sample consisted of 9 five star hotels and 6 four-star hotels. The total population used was 177 permanent staff from the housekeeping departments of the hotels. The number of the staff participating in the survey was 144, an 81.4% response rate.

For the purpose of collecting data in this survey, "the motivation problems" survey was used because it is well-known in management literature for its validity. The survey has two parts consisting of a total of 27 questions. In the first part the staffs were asked how important the various factors were, and in the second part they were asked how satisfactorily their employers performed in terms of these factors. Therefore, the importance given by the staff to the issued factors, and the satisfaction level achieved by the employing firm in terms of these factors regarding the employees were determined.

In the measurement of the survey questions, the 5-point Likert Scale was used. The scale reference points were: Importance Levels - "0" stands for "unimportant" and "4" stands for "very important"; and Satisfaction Levels - "0" stands for "not satisfactory at all" and "4" stands for "very satisfactory". In order to determine the demographic qualities of the respondents, five basic questions were added to the beginning of the survey.

The pilot study of the research was done in January 2004 using a randomly chosen hotel. The survey was administered by the researchers to insure that all participating staff answered the questions using the same terms. The personal interview method was used in order to provide the same understanding of the questions among all personnel and help attain reliable answers, particularly from lower-educated employees. All the survey questions were answered during lunchtimes or working hours. The Kendall's tau-c correlation coefficient was calculated in order to determine the relationship between the satisfaction level and the importance level given to the questions asked. The normal distributions of both variables were doubtful so the Wilcoxon Signed-Ranks Test, commonly used for comparing dependent pairs, was preferred. Both evaluations were utilized to calculate every question separately. The average, percentage calculation and standard deviation for every question were also determined.

## 3. Research Findings

Research findings are classified into three parts: The first section presents the demographic statistics; the second section presents the responses to the questions directed at discovering motivation problems; and the final section presents the relationships between the demographic qualities and the motivation problems.

### 3.1 Demographic Findings

According to the data from the first 6 (demographic) questions, the total number of staff participating from the four-star hotels was 59 (41.0% of total respondents), and the total numbers of staff in five star hotels was 85 (59.0%). Of the total respondents, 43.1% were and 56.9% were men. The completed levels of education were: 41 primary school graduates, 33 secondary school graduates, 56 high school graduates, and 13 university graduates. None of the staff members had a PhD or a Masters degree. It is evident that most of the staff were not university graduates (90.9%) and the highest number of respondents were high school graduates (39.2%). 91 (63.2%) of the total participants were married and 53 (36.8%) of them were single. The average age of staff participating in the survey was 32.1 years, and the average length of tenure was 6.5 years. The tenure statistics of the staff indicated a widespread distribution.

### 3.2 The Data Related to the Motivational Problems

There are 26 questions for determining the motivational problems in this research. Additionally, a general importance and satisfaction question was asked to assist in the total evaluation. Questions were evaluated according to the Likert Scale.

Insert Table 1 Here

The evaluations of the questions are as follows:

- There is no relationship between the importance given for the salary earned and surveyed satisfaction levels of staff and no correlation between the salary levels and responses to the survey questions.
- The staff gave importance to job security, but the level of satisfaction they receive is low.
- The staff considered not to work extra hours important, but they usually must work extra hours.
- The staff thinks that social assistance is important, but they are not satisfied with the level given.
- The staff thinks that being rewarded is important, but the satisfaction level is low.
- The hotel staff thinks they should be appreciated for their performance, but they do not receive any appreciation.
- Hotel staffs are eager to participate in decision-making, but management does not allow them to participate in the process.
- Employees place importance on staffs' contribution in discussing company goals, but they do not have opportunities to contribute.
- Staff gives importance to not being informed about the general policies of the company but managers do not inform staff regarding companies' policies.
- Staffs want to utilize their abilities, but they do not have any opportunities.
- The staff desire to improve and develop their personal skills and abilities, but they do not get any chance to improve themselves in their companies.
- Hotel staffs want to be trained, but they do not have the opportunity.
- Staffs want to be authorized and take responsibility in the working areas, but they do not get these opportunities.
- Staffs want respect between co-workers, but it does not exist.
- Staffs think it is important to be respected because of their jobs, both in work and social life, but they feel their jobs do not receive proper respect.
- Staff place importance on being sufficiently qualified to utilize tools and materials, but they believe the tools and materials are not current and efficient.
- Staffs think good working conditions are a prerequisite for increased, positive performance, but there is a great discrepancy between the current conditions and what they should be.
- Staffs receive no satisfaction in their relationship with their employers, but it is highly important to them.
- Staffs want to communicate with the managers easily, but they do not get the training or opportunities.
- Staff place importance in the managers' ability to mediate disagreements and arguments, but they do not see this being done.
- Staff place importance on good attitudes and behaviors from their managers when there are disagreements between the staff and clients, but do not experience this.
- Staffs want to work harmoniously with all groups/areas of the work place, but they do not experience this.
- Staff wishes to work co-operatively within their groups in the company, but do not have any satisfaction doing this.
- Staffs want their duties, authority and responsibilities to be clarified, but they are not.
- Staffs want job responsibilities to be equally distributed, but they are not.
- Staffs consider it important to be able to take holidays and vacations, but they are not able to take holidays and vacations easily.
- Staff generally give importance to attaining satisfaction in all areas, but indicated that they do not receive it.

### *3.3 The Relationship between Demographic Characteristics and the Motivational Problems*

The differences between four and five star hotels were evaluated. In order to investigate the effect of each variable, correlations were calculated at  $p < .05$ . A significant relationship between two characteristics is identified. First, there

is a significant relationship between the rating of hotel and the level of job satisfaction ( $p < 0.05$ ). The direction of this relation is positive and its force is weak (0, 18).

(Insert Table 2. here)

Clearly the staffs working in five star hotels receive more satisfaction than those working in four-star hotels.

The second significant relationship is between tenure and the level of job satisfaction ( $p < 0.05$ ). The relation has a medium force (0, 23). It is observed that there is a positive relationship between tenure and job satisfaction.

(Insert Table 3. here)

#### 4. Discussion of Findings

According to the above results, the most important topics that concerned employees were getting on well with their colleagues and experiencing a positive and supportive attitude from their managers. These topics are based in the level of communication with colleagues or with managers. From the results, it is clear that the employees give more importance to behavioral approaches.

The less important issues that employees care about are being uninformed about job policy and working beyond regular working hours. Housekeeping personnel do not pay much attention to management policies. Employees feel distant from management, if their level of education is low and they do not see how to progress in their jobs. Hotels operate non-stop 24 hours per day, 365 days a year. Working hours for this industry are not fixed, especially during the busy seasons. Therefore, staffs often work overtime. The employees see this as a part of their obligation and do not expect extra compensation.

The employees give the same amount of importance to their salary and their job security. However, the level of satisfaction is low for job security. Housekeeping departments have one of the highest turnover rates in this sector. This clearly contributes to the level of importance given to job assurance. However, the relationships among co-workers and management often are more important to employees than job assurance and salary level.

Summarily, the conciliatory approach of the manager when a disagreement occurs with a customer, good relationships with their colleagues and collaboration are considered more important by employees.

The lowest satisfaction levels rank as follows: contributing to the determination of the management goals, rewarding for individual success and promoting personal progress. Salary level for the job, the possibilities for job training and job education follow these. The less important factors are appreciation for success, social aids like clothing and fuel support and health services and to have opinion about the decisions that are taken.

#### 5. Conclusion

The level of satisfaction of the employees in 5 star hotels is higher. In Ankara, the 5 star hotels are more institutionalized than the other hotels. The magnitude of business affects the attitude of management. Therefore, at 5 star hotels' professional management comprehension is being adapted and the motivation of the employees has become more important. However, according to the results of this research, these areas are still not at the desired level.

Research regarding the employees' personal data, there is a positive relationship between the age of the worker and work satisfaction. The reason for the positive relationship is that as the workers age, their adaptation to the job increases. Conversely, young and new employees' expect excellent working conditions and desire quick promotions, but have a higher level of dissatisfaction when they start their jobs.

Through every area of this research, there is distinct correlation between the importance level and the satisfaction level. The employees were not satisfied regarding issues which are important for them. This shows that there are considerable motivational problems in the analyzed businesses. The basic reason for this is that the salaries and per diem rates are low in Turkey; therefore, the managers are not interested in the productivity of the employees. The rules for employees are well determined in the hotel sector. The price of not following the rules is quite heavy. Therefore, the managers feel no need to address motivational problems with their staff despite the need to increase service quality enough to make their hotels profitable and desirable. Further study should be done in other service areas to see if there are similarities to the above research.

#### References

- Becherer, R. C., Morgan, F. W., & Richards L. M. (1982). The job characteristics of industrial salespersons-relationship to motivation and satisfaction. *Journal of Marketing*, 46(4), 125-135.
- Chiu, R. (2000). Does perception of pay equity, pay satisfaction, and job satisfaction mediate the effect of positive affectivity on work motivation? *Social Behavior and Personality*, 28(2), 177-184. <http://dx.doi.org/10.2224/sbp.2000.28.2.177>

- Cummings, T. G., & Bigelow, J. (1976). Satisfaction, job involvement, and intrinsic motivation: An extension of Lawler and Hall's factor analysis. *Journal of Applied Psychology*, 61(4), 523-525. <http://dx.doi.org/10.1037/0021-9010.61.4.523>
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum. ISBN 0306420228.
- Firestone, J. M., Garza, R. T., & Harris, R. J. (2005). Protestant work ethic and worker productivity in a Mexican brewery. *International Sociology*, 20(1), 27-44. <http://dx.doi.org/10.1177/0268580905049908>
- George, J. M., & Jones, G. R. (1996). *Understanding and Managing Organizational Behavior*. Reading, Massachusetts: Addison-Wesley Publishing Company.
- Helphingstine, S. R., Head, T. C., & Sorensen, P.F. (1981). Job characteristics, job-satisfaction, motivation and satisfaction with growth- a study of industrial-engineers. *Psychological Reports*, 49(2), 381-382. <http://dx.doi.org/10.2466/pr0.1981.49.2.381>
- Huang, X. Van de Vliert, E. (2003). Where intrinsic job satisfaction fails to work: national moderators of intrinsic motivation. *Journal of Organizational Behavior*, 24(2), 159-179. <http://dx.doi.org/10.1002/job.186>
- Huang, X. Van de Vliert, E. (2004). Job level and national culture as joint roots of job satisfaction. *Applied Psychology*, 53(3), 329-348. <http://dx.doi.org/10.1111/j.1464-0597.2004.00174.x>
- Hunt, M., Head, T. C., Sorensen, P. F. (1982). Job Characteristics, job-satisfaction, motivation and the role of context variables-a study of hospital pharmacists. *Psychological Reports*, 51(2), 394. <http://dx.doi.org/10.2466/pr0.1982.51.2.394>
- Igalens, J., Roussel, P. (1999). A study of the relationship between compensation package, work motivation and job satisfaction. *Journal of Organizational Behavior*, 20(7), 1003-1025. [http://dx.doi.org/10.1002/\(SICI\)1099-1379\(199912\)20:7<1003::AID-JOB941>3.0.CO;2-K](http://dx.doi.org/10.1002/(SICI)1099-1379(199912)20:7<1003::AID-JOB941>3.0.CO;2-K)
- Ilardi, B. C., Leone, D. Kasser, T., & Ryan, R. M. (1993). Employee and supervisor ratings of motivation-main effects and discrepancies associated with job-satisfaction and adjustment in a factory setting. *Journal of Applied Social Psychology*, 23(21), 1789-1805. <http://dx.doi.org/10.1111/j.1559-1816.1993.tb01066.x>
- Katzell, R. A., & Yankelovich, D. (1976). Pay vs. work motivation and job-satisfaction. *Compensation Review*, 8(1), 54-56. <http://dx.doi.org/10.1177/088636877600800107>
- Lambert, S. J. (1991). The combined effects of job and family characteristics on the job-satisfaction, job involvement, and intrinsic motivation of men and women workers. *Journal of Organizational Behavior*, 12(4), 341-363. <http://dx.doi.org/10.1002/job.4030120408>
- Lawler, E. E., Hall, D. T. (1970). Relationship of job characteristics to job involvement, satisfaction, and intrinsic motivation. *Journal of Applied Psychology*, 54(4), 305. <http://dx.doi.org/10.1037/0021-9010.61.4.523>
- Ma, X. MacMillan, R. B. (1999). Influences of Workplace Conditions on Teachers' Job Satisfaction. *The Journal of Educational Research*, 93(1), 39-47. <http://dx.doi.org/10.1080/00220679909597627>
- Madsen, K. B. (1968). *Theories of Motivation*. (4th ed.). Ohio: The Kest State University Press.
- Maillet, L. J. (1984). Influence of Perceived job-enrichment and goal characteristics on employees satisfaction, motivation, and performance. *Psychological Reports*, 54(1), 131-137. <http://dx.doi.org/10.2466/pr0.1984.54.1.131>
- Milman, V. E. (1985). Working Motivation and job-satisfaction. *Psikhologicheskii Zhurn.*, 6(5), 62-72.
- Mullins, L. (1989). *Management and Organizational Behavior*. (2nd ed.). London: Pitman Pub.
- Newstrom, J. W., & Davis, K. (1993). *Organizational Behavior: Human Behavioral Work*. (9th ed.). New York: McGraw-Hill, Inc.
- Orpen, C. (1994). Interactive effects of work motivation and personal control on employee job-performance and satisfaction. *Journal of Social Psychology*, 134(6), 855-856. <http://dx.doi.org/10.1080/00224545.1994.9923021>
- Pellegrini, E. K., & Scandura, T. A. (2006). Leader-member exchange (LMX), paternalism, and delegation in the Turkish business culture: An empirical investigation. *Journal of International Business Studies*, 37(2), 264-279. <http://dx.doi.org/10.1057/palgrave.jibs.8400185>
- Pool, S. W. (1997). The relationship of job satisfaction with substitutes of leadership, leadership behavior, and work motivation. *The Journal of Psychology*, 131(3), 271-283. <http://dx.doi.org/10.1080/00223989709603514>
- Robbins, S. (2001). *Organizational Behavior*. (9th ed.). New Jersey: Prentice Hall Inc.
- Robert, C., Probst, T. M., Martocchio, J. J., Drasgow, F., & Lawler, J. J. (2000). Empowerment and continuous

improvement in the United States, Mexico, Poland, and India: Predicting fit on the basis of the dimensions of power distance and individualism. *Journal of Applied Psychology*, 85(5), 643-648. <http://dx.doi.org/10.1037/0021-9010.85.5.64>

Schermerhorn, J. R., Hunt, Jr. G., & Osborn, R. N. (1997). *Organizational Behavior*. (6th ed.). New York: John Wiley & Sons, Inc.

Scott, W., Mitchell, G., & Terence, R. (1972). *Organization Theory. A Structural and Behavioral Analysis*. Illinois: Richard D. Irwin, Inc.

Standish, R. C. (1982). Job-satisfaction and Motivation. *American Journal of Hospital Pharmacy*, 39(9), 1460.

Thomas, D. C., & Pekerti, A. A. (2003). Effect of culture on situational determinants of Exchange behavior in organizations-a comparison of New Zealand and Indonesia. *Journal of Cross-Cultural Psychology*, 34(3), 269-281. <http://dx.doi.org/10.1177/0022022103034003002>

Tsai, P. C. F., Yen, Y. F., Huang, L. C., & Huang, I. C. (2007). A study on motivating employees' learning commitment in the post-downsizing era: Job satisfaction perspective. *Journal of World Business*, 42(2), 157-169. <http://dx.doi.org/10.1016/j.jwb.2007.02.00>

Tzeng, H. M. (2002). The influence of nurses' working motivation and job satisfaction on intention to quit: an empirical investigation in Taiwan. *International Journal of Nursing Studies*, 39(8), 867-878. [http://dx.doi.org/10.1016/S0020-7489\(02\)00027-5](http://dx.doi.org/10.1016/S0020-7489(02)00027-5)

Wahba, S. P. (1978). Motivation, performance and job satisfaction of librarians. *Law Library Journal*, 71(2), 270-278.

Table 1. The Average Scores of Satisfaction and Importance of the Factors

Questions	L / S	L / I	Tau-c Corr. Coef.		Wilcoxon Signed R.T.	
	Mean	Mean	Value	Sig.	Z-value	Sig.
1. The level of salary	3,55	2,18	0,022±0,053	n/s	-8,687	s
2. Job security	3,55	2,24	0,101±0,490	s	-8,089	s
3. Extra working hours	2,87	2,14	0,164±0,068	s	-4,729	s
4. Social aid other than the salary	3,44	2,15	0,073±1,376	n/s	-7,462	s
5. Reward for success (apart from the salaries)	3,26	1,83	0,020±0,055	n/s	-7,552	s
6. Appreciation for success (Moral award)	3,45	2,06	-0,004±0,057	n/s	-7,526	s
7. Participation to the decisions	3,19	2,24	0,205±0,063	s	-6,832	s
8. Participation in the determination of the aims	2,61	1,52	0,217±0,067	s	-6,578	s
9. Uninformed about the common policy	2,86	2,01	0,319±0,061	s	-5,976	s
10. Being opportunity of using personal skills actively	3,44	2,40	0,125±0,054	s	-7,300	s
11. Possibility for career progress and development	3,40	1,91	0,042±0,052	n/s	-7,918	s
12. Availability of internal training programs	3,43	2,18	0,047±0,054	n/s	-7,299	s
13. Level of assigned responsibility	3,64	2,84	0,107±0,043	s	-6,329	s
14. Esteem and prestige between colleagues	3,45	2,61	0,191±0,047	s	-6,278	s
15. Esteem and prestige of the work in society	3,32	2,35	0,180±0,054	s	-6,633	s
16. Adequacy of the material, equipment exc.	3,49	2,71	0,190±0,053	s	-6,497	s
17. Work conditions	3,50	2,73	0,120±0,052	s	-5,914	s
18. Attitudes of managers towards relationships	3,63	2,95	0,132±0,048	s	-6,004	s
19. Possibilities discussion with managers	3,57	2,95	0,192±0,051	s	-5,472	s
20. Conciliatory approaches (among employees)	3,48	2,91	0,216±0,055	s	-5,030	s
21. Conciliatory approaches (customers-employees)	3,48	3,18	0,330±0,053	s	-3,553	s
22. Accord between employees	3,67	3,15	0,187±0,045	s	-5,633	s
23. Collaboration between employees	3,60	3,11	0,245±0,044	s	-5,070	s
24. Clarification of job responsibilities and authority	3,57	2,91	0,195±0,054	s	-6,333	s
25. Fairness of job distribution	3,57	2,77	0,213±0,044	s	-6,232	s
26. Receipt of leave and holiday rights	3,58	2,87	0,115±0,050	s	-5,648	s
27. Level of job satisfaction for the employees	3,57	2,57	0,115±0,051	s	-7,594	s

(p≤.05)



Table 2. Symmetric Measures of hotel rating and the level of job satisfaction

		Value	Asymp. Std. Error(a)	Approx. T(b)	Approx. Sig.
Interval by Interval	Pearson's R	,178	,081	2,144	,034(a)
Ordinal by Ordinal	Spearman Correlation	,167	,082	2,016	,046(a)
N of Valid Cases		143			

(a) Based on normal approximation.

Table 3. Symmetric Measures of tenure and the level of job satisfaction

		Value	Asymp. Std. Error(a)	Approx. T(b)	Approx. Sig.
Interval by Interval	Pearson's R	,230	,078	2,801	,006(a)
Ordinal by Ordinal	Spearman Correlation	,221	,083	2,677	,008(a)
N of Valid Cases		142			

(a) Based on normal approximation.

# Determinants of Enterprise Risk Management (ERM): A Proposed Framework for Malaysian Public Listed Companies

Ahmad Shukri YAZID (Corresponding author)

Faculty of Business Management & Accountancy, University Sultan Zainal Abidin  
Terengganu Darul Iman 21300, Malaysia  
E-mail: shukri@unisza.edu.my

Ahmad Rizal RAZALI

Faculty of Business Management & Accountancy, University Sultan Zainal Abidin  
Terengganu Darul Iman 21300, Malaysia  
E-mail: ahmadrizal@unisza.edu.my

Mohd Rasid HUSSIN

College of Business (COB), University Utara Malaysia (UUM)  
Sintok, Kedah Darul Aman, Malaysia  
E-mail: mdrasid@uum.edu.my

Received: August 1, 2011  
doi:10.5539/ibr.v5n1p80

Accepted: October 20, 2011

Published: January 1, 2012

URL: <http://dx.doi.org/10.5539/ibr.v5n1p80>

## Abstract

Enterprise Risk Management (ERM) has become an important subject of increasing interest among businesses and industries throughout the world. Along the same note, ERM is considered a critical management practice for companies to mitigate risks effectively. The main objective of this paper is to propose a conceptual framework for determinants of companies in Malaysia that implement ERM. From the review of various literatures available in this particular area of interest, several factors are found to be the main determinants of companies that implement ERM. Such factors are the presence of chief risk officer, leverage, profitability, international diversification, majority shareholder, size and turnover.

**Keywords:** ERM, CRO

## 1. Introduction

Many companies in Asian countries suffered immensely during the financial crisis in 1997. The crisis resulted in currency devaluation throughout the region (Yazid, 2001). As a result, many companies involved in international trade and businesses were greatly impacted and subsequently suffered huge foreign exchange losses. One example in Malaysia was Tenaga Nasional Bhd (TNB), the main energy provider in Malaysia which actually suffered a staggering loss of RM2.47 billion. Another company, Telekom Malaysia <sup>TM</sup>, a telecommunications provider experienced translation losses of RM158 billion (Yazid, 2001).

The collapse of Enron in 2001 shocked many investors, professionals and even academicians. It is believed that the manipulation of financial derivatives and the use of creative accounting were the prime causes of loss. In addition, the total lack of management controls vis a vis risk management and internal controls resulted in the eventual collapse of Enron.

In short, these companies were found to have suffered huge financial losses due to an apparent lack of proper risk management mechanisms (IMF Report, 1998). Before the financial crisis, companies in Malaysia appeared complacent in managing risks. Much of the related literature suggests that financial risks could be reduced if companies properly managed their risks. In this context, the role of risk management or more specifically ERM

could be used to effectively reduce or minimize a companies' operational risks (Yazid and Muda, 2005; Manab et al 2007).

Nevertheless, the main aim of this particular paper is to come up with a conceptual framework for determinants of companies that implement ERM. Based on this primary objective, this paper attempts to answer a specific research question which is what the determining factors are for companies that implement ERM.

The paper is structured as follows: First, a brief summary on the concept of ERM. Second, the thorough review of literature on determinants of ERM and hypothesis development. Third, the proposed framework is developed and finally the conclusion.

## 2. Enterprise Risk Management

ERM is clearly different from Traditional Risk Management (TRM). With respect to TRM, risks are being treated and managed in 'silos' whereas ERM integrates or aggregates all types of risks faced by the companies concerned. For instance, Lam (2000) defined ERM as "an integrated framework for managing credit risk, market risk, operational risk, economic capital, and risk transfer in order to maximize firm value" while Makomaski (2008) suggested that ERM is "a decision-making discipline that addresses variation in company goals."

On the other hand, Alviuinessen and Jankensgard (2009) argued that ERM is actually concerned with a holistic, company-wide approach in managing risks, and importantly, have centralized all the information obtained in accordance to their potential risk exposures. Both of them put forward the term "Risk Universe" which suggests the risks that might have an impact on the future cash flow, profitability and continued existence of a company. In other words, risk universe includes all risks that could affect a company. If risk universe can be identified, the next step is to take appropriate action such as risk mapping process, access the likelihood and impact, and curb the risk based on the organizations' objectives.

Therefore, based on the previous definitions, there are two (2) key points that need to be highlighted. First, is the main role of ERM itself which essentially integrates and coordinates all types of risk across the entire company. It simply means that risks cannot be managed in a 'silo' or 'stovepipe' approach (Beasley & Frigo, 2007). Importantly, all the potential risk exposures faced by a company must be treated and managed in an enterprise-wide approach. Second, with the adoption and application of ERM, companies could possibly identify all the potential incidents that may directly or indirectly affect the company and ultimately know very well their risk-appetite. If the risk-appetite is specifically known, any decision made by the company to curb risks may be in parallel with the firm's objective (Walker, Shenkir and Barton, 2006).

## 3. Determinants of ERM Implementation

Based on the previous literature, this study identifies seven (7) variables that are closely related to ERM. They include the following: Chief Risk Officer (CRO), leverage, profitability, international diversification, institutional ownership, size, and turnover. All variables are explained as below:

### 3.1 Chief Risk Officer

Lam (2000) postulated that ERM should consist of seven (7) components which include corporate governance, line management, portfolio management, risk transfer, risk analytics, data and technology resources and stakeholder management. Lam also introduced a new risk officer role entitled "Chief Risk Officer" (CRO) who is responsible for developing an integrated approach in managing risks. Furthermore, Lam (2000) suggested that the roles of CRO are as follows:

- To establish an integrated risk management framework for all aspects of risk across the organization.
- To develop the risk management policies which include the quantification of management risk appetite through specific risk limits.
- To implement a set of risk metrics and reports, including losses and incidents, key risk exposures and early warning indicators.
- To allocate the economic capital to business activities based on risk while at the same time optimizing the company's risk portfolio through business activities and risk-transfer strategies.
- To improve the company's risk management readiness through communication and training programs, risk-based performance measurement and incentives, and other change management programs.
- To develop the analytical, systems and data-management capabilities to support the entire risk management program implemented.

In addition, companies need to have the right tools and framework for the successful implementation of ERM. One of these tools is to appoint a CRO. As suggested by Lee (2000), the roles of CRO include the following:

- To create a risk-aware and risk-consciousness culture on the whole.
- To develop a “Centre of Excellence for Risk Management Expertise” for the main purpose of managing risks, which are staffed by highly competent and highly valued individual risk managers.
- To create an efficient approach for financing risks.
- To communicate with all stakeholders concerned and be an advisor to other executives and managers.

Lam and Kawamoto (1997) suggested that the CRO plays a major role in determining the ERM program. They strongly suggested that companies should consider appointing the CRO to manage all the potential risks such as business risk, operational risk, credit risk, market risk and organizational risk. In this respect, the CRO usually works together with his or her supporting team, namely the Risk Management Committee (RMC).

Liebenberg and Hoyt (2003) argued that if companies fail to hire a CRO, it does not mean the companies do not practice ERM. Other parties such as the chief financial officer or chief executive officer could be the ‘de facto’ position of the CRO just mentioned. However, in their study, the CRO is one of the factors that encourage the companies to engage themselves in ERM. This is further supported by Kleffner, Lee, McGannon (2003) and Yazid et.al (2011) who show the existence of a CRO influences eventual ERM implementation. In addition, from a study conducted by Beasley, Clune and Hermanson (2005) which focused on the factors associated with companies implementing ERM, they found that the appointment of a CRO had a significant impact on companies to implement ERM. Hence, this study hypothesises that,

H1: There is a positive relationship between the appointment of CRO and ERM implementation

### *3.2 Leverage*

In respect to finance, leverage refers to borrowing, and it reflects on the capital structure of a company (Keown, Martin & Petty, 2010). A company might use 60 percent of bonds and 40 percent of stocks as a basis of capital structure or any other ratio. When a company uses leverage, it has to borrow from other institutions to finance the purchase of assets or operations. Leverage can also be created from other equally important financial instruments namely, options and futures.

Leverage is acceptable and useful for the purpose of a company’s future growth. However, the company could bear financial distress and risk of bankruptcy if too much borrowing activity occurs. Higher leverage means that the company could face a higher chance of suffering from financial distress. The situation could become worse during a period of economic downturn. Therefore, a company with leverage has to manage the risk of going bankrupt or continue to be in a state of financial difficulty. In other words, the use of leverage would encourage companies to engage in ERM.

A study by Pagach and Warr (2007) revealed four (4) main characteristics of companies that implement ERM. One of the characteristics is leverage and it shows that companies with higher leverage would be more involved in ERM. In addition, Liebenberg and Hoyt (2003) showed that a company with high leverage is more likely to appoint a CRO and the eventual appointment of the CRO means that the company itself would be directly involved in ERM. Hence, this study hypothesises that,

H2: There is a positive relationship between leverage and ERM implementation

### *3.3 Profitability*

One of the main objectives for any company is to enhance the overall shareholders’ value. This can only be done if the company generates more profit for each financial year. Without gaining profit, a business could not survive in the long term. A company could not expand its business, or improve the quality of its products through research and development. Therefore, this scenario would have a direct effect on the shareholders’ return.

It must be emphasized that profitability measures are important to companies because such measures provide the clear indication of the companies’ ability to generate income and positive returns to company shareholders. When a company shows a good return, instead of distributing to shareholders, the company could enhance the existing operations whilst at the same time becoming involved in research and development, as well as adopting the ERM program.

Essentially, a company requires adequate resources in order to successfully implement ERM. Resources refer to staff and more importantly, the required funding to finance all the ERM activities. Thus, a mandate from the Board of Directors or Chief Executive Officer is extremely important to ensure the successful implementation of ERM

(Decker and Galer, 2010). These arguments suggest that companies with more profits are more likely to be involved in ERM. This was shown by Liebenberg and Hoyt (2003) who suggested that one of the determinants for company involvement in ERM is profitability. Hence, this study hypothesises that,

H3: There is a positive relationship between profitability and ERM implementation

### 3.4 International Diversification

As argued by Lam (2003), diversification is “the concept of lowering the total risk of an enterprise by spreading risk among many distinct projects: the total risk produced by a collection of diverse risk is less than the sum of those risks considered in isolation.” The purpose of international diversification is to reduce risks such as economic risks or political risks which could be associated with investments in a single country. A company is said to be diversifying internationally if it varies business operations among several countries. Importantly, internationally diversified companies reduce unsystematic risks by varying the types of return. For instance, for a company that is involved in several countries, they will benefit when the home currency appreciates. However, this also involves risks. For example, when a foreign government’s policy changes. This implies that if a company diversifies into five (5) countries, it has to face at least five (5) unexpected risks relating to government policies.

A company that is internationally diversified could face different risks from various countries, this will increase the chance for companies to bear huge risks. In this respect, Yazid (2001) argued that highly diversified companies are more likely to be involved in ERM.

A company which has diversified its business in other countries needs to get accurate information from his or her representatives from the different parts of the world in order to analyse and mitigate risks. These problems are ineffective when mitigated in a ‘silo’. All risk exposures can be mitigated systematically using the ERM integrated approach. For this particular reason, Hoyt and Liebenberg (2006, 2008) suggested that companies which are internationally diversified are positively related to ERM. Hence, this study hypothesises that,

H4: There is a positive relationship between international diversification and ERM implementation

### 3.5 Majority Shareholder

According to Thomsen and Pedersen (2000), ownership has at least two (2) dimensions. First, is the identity and concentration of ownership and secondly, the legal status of the contract which regulates the ownership. They postulated that shared ownership is divided into two (2) categories namely, the minority ownership (which is less than 50 percent) and majority ownership (which is more than 50 percent).

In addition, dispersed ownership is the same as minority ownership where the largest owner holds less than 20 percent of the total shares. Government ownership is defined as a local or national government owned-majority shares in a company (Pedersen and Thomsen, 1997).

It must therefore be mentioned that majority shareholders could also influence the company’s decisions. In this context, the decision to implement ERM as an integrated approach could also come directly from a company’s board of directors. The standard for risk management best practices requires that the decision to implement ERM come from the top management itself (Yazid, Hussin, Razali, 2009).

In this regard, Pagach and Warr (2007) suggested that firms with greater institutional ownership may have greater pressure to install related control that is associated with ERM. For example, the management of a company could establish the ERM program smoothly if they have at least 51 percent of various shareholders who support the establishment of such a program. Furthermore, Desender and Lafuente (2009) put forward that having the presence of at least one large shareholder is perhaps one way to improve the overall quality of risk management. Hence, this study hypothesises that,

H5: There is a positive relationship between majority shareholders and ERM implementation

### 3.6 Size

The size of a company is normally reflected in its assets. Assets represent the economic resources for companies. Assets can be divided into two (2) categories namely, tangible (such as buildings, inventories and equipment) and intangible (such as copyrights, franchises and trademarks). Companies need to ensure that all assets could be managed effectively because assets are extremely useful in supporting related activities that could possibly provide overall benefits to both the companies concerned and their shareholders; either over short-term or long-term periods.

For instance, to support the ERM program, a company might use software such as SAS or CITICUS. The software is useful for the purpose of measuring and effectively managing risks for the company on the whole. To buy this

software would definitely require great cost and therefore, only large companies have enough resources to do so contributing to the effective implementation of ERM.

In a study by Beasley, Clune and Hermanson (2005) which focused on the factors associated with the implementation of ERM, it was found that company size is one of the contributing factors. On the same note, Yazid (2008) showed that larger multinationals were more likely to be involved in risk management. Furthermore, Hoyt and Liebenberg (2006) revealed that size is one of the key factors that determine the company's involvement in ERM. The importance of having enough assets to support an ERM program was also stressed in studies conducted by Pagach and Warr (2007) and Yazid et.al (2008). In addition, most of the studies provide evidence that larger companies are more likely to engage themselves in ERM activities. Hence, this study hypothesises that,

H6: There is a positive relationship between size and ERM implementation

### 3.7 Turnover

In terms of finance, turnover is a ratio to show how often an asset is replaced which indicates the business activities. Keown et.al, (2008) referred turnover as annual sales. For companies, turnover is the amount of business it conducts within a cycle period. In most common practices, it can be derived from the firm's accounts receivable and the firm's inventory turnover. High turnover (referring to inventory turnover) translates into the companies having good business and good management as well.

A study by Benston (2006) suggested that generating sales is a key factor for companies to succeed in business. If companies are able to generate more sales, the companies could expand their business operations, hire more staff, buy additional software and equipment, and also support more programs including ERM. Therefore, it can be suggested that annual turnover is one of the key factors for companies to be involved in ERM programs (Kleffner, Lee and McGannon 2003; Yazid, 2001). This is because companies with a higher turnover would have enough funds to support the ERM program. Thus, companies with high turnover have more tendencies to practice ERM. Hence, this study hypothesises that,

H7: There is a positive relationship between turnover and ERM implementation

## 4. Proposed Framework

Based on the pertinent literature discussed earlier, a conceptual framework for the determinant of ERM has been developed (see Figure 1.). This study suggests that several factors such as the appointment of a CRO, leverage, international diversification, majority shareholders, size and turnover are considered important factors that motivate companies to engage in ERM. The proposed framework for this study is presented in Figure 1.

(Insert Figure 1. here)

From the above, the condition of ERM practices among public listed companies suggests that:

There are positive relationships between variables such as CRO, leverage, profitability, international diversification, majority shareholder, size and turnover with ERM engagement.

Hence, this conceptual paper seeks to test the proposed framework of ERM practices in the context of Malaysian public listed companies. It is worthwhile to conduct an empirical study to examine whether companies that practice ERM are actually influenced by the factors as discussed in the proposed framework.

## 5. Conclusion

Much of the literature suggests that ERM contributes to the overall value of a company/organization. This in turn, illustrates the importance of ERM to businesses and industries worldwide. From the thorough review of related literature in this particular area of interest, there are seven (7) factors that could possibly influence any company/organization to eventually implement ERM. The factors include the appointment of a CRO, leverage, profitability, international diversification, majority shareholders, size and turnover. Further study is therefore needed to examine whether all of these factors contribute significantly to ERM implementation within the company/organization concerned.

## References

- Alviunessen, A., & Jankensgard, H. (2009). Enterprise risk budgeting: bringing risk management into the financial planning process. *Journal of Applied Finance*, 19(1), 178-190.
- Beasley, M. S., Clune, R. & Hermanson, D.R. (2005). Enterprise Risk Management: An empirical analysis of factors associated with the Extent of implementation. *Journal of Accounting and Public Policy*, 24 (6), 521-531. <http://dx.doi.org/10.1016/j.jaccpubcol.2005.10.001>

- Beasley, M. S., & Frigo M. L. (2007). Strategic Risk Management: Creating and protecting value. *Strategic Finance*, 25-53.
- Benston, G. J., & Evan, J. D. (2006). Performance compensation contract & CEOs' incentive to shift risk to debtholders: An empirical analysis. *Journal of economic and finance*, 30(1), 70-92.
- Decker, A., & Galer, D. (2010). Getting the focus on enterprise risk management right. [Online] Available: <http://community.rims.org/RIMS/RIMS/Community/Resources/ViewDocument/.Default.aspx?DocumentKey=47b61f84-4341-47f9-8fdc-2dd50d64ac29>.
- Desender, K. A., & Lafuente G, E. (2009). The Influence of Board Composition, Audit Fees and Ownership Concentration on Enterprise Risk Management. [Online] Available: <http://ssrn.com/abstract=1495856>. (October 28, 2009)
- Hoyt, R, E., & Liebenberg, A. P. (2006). The value of enterprise risk management evidence from the U.S> insurance industry. [Online] Available: [http://www.aria.org/meetings/2006papers/Hoyt\\_Liebenberg\\_ERM\\_070606.pdf](http://www.aria.org/meetings/2006papers/Hoyt_Liebenberg_ERM_070606.pdf).
- Hoyt, R, E., & Liebenberg, A. P. (2008). The value of enterprise risk management evidence from the U.S> insurance industry. [Online] Available: [http://www.risknet.de/typo3conf/ext/bx\\_elibrary/elibrarydownload.php?&downloaddata=537](http://www.risknet.de/typo3conf/ext/bx_elibrary/elibrarydownload.php?&downloaddata=537).
- IMF Report. (1998). IMF concludes articles iv consultation with Malaysia. [Online] Available: <http://www.imf.org/external/pubs/ft/ar/98/index.htm>.
- Lam, J. (2000). Enterprise-Wide Risk Management and the role of the chief risk officer. [Online] Available: <http://www.Erisk.com>. (March 25, 2000).
- Lam, J. (2003). *Enterprise risk management: from incentives to controls*. John Wiley & Sons. New Jersey.
- Lam, J. C., & Kawamoto, B. M. (1997). Emergence of the chief risk officer. *Risk management*, 44(9), 30-36.
- Lee, C. R. (2000). Chief risk officer stepping up. *Risk management*, 47 (9), 22-27.
- Manab, N. A., Hussin, M. R., & Kassim, I. (2007). Empirical study on theory and practice of enterprise-wide risk management on internal auditing and risk management function of public listed companies in Malaysia. [Online] Available: [http://www.rmi.nccu.edu.tw/apria/docs/Concurrent%20IV/Session%201/14707EWRM\\_APRIA\\_2007\\_New.doc](http://www.rmi.nccu.edu.tw/apria/docs/Concurrent%20IV/Session%201/14707EWRM_APRIA_2007_New.doc).
- Keown, A. J., Martin, J. D., & Petty, J. (2008). *Foundation of finance: the logic and practice of financial management*. London: Prentice Hall.
- Kleffner, A., Lee, R., & McGannon, B. (2003). The effect of corporate governance on the use of Enterprise Risk Management: Evidence from Canada. *Risk Management and Insurance Review*, 6(1), 53-73. <http://dx.doi.org/10.1111/1098-1616.00020>
- Liebenberg, A., & Hoyt, R. (2003). The determinants of Enterprise Risk Management: Evidence from the appointment of chief risk officers. *Risk Management and Insurance Review*, 6(1), 37-52. <http://dx.doi.org/10.1111/1098-1616.00019>
- Makomaski, J. (2008). So what exactly is ERM? *Risks Management*, 55(4), 80-81.
- Pedersen, T., & Thomsen, S. (1997). European patterns corporate ownership: A twelve country study. *Journal of International Business Studies*, 4(28), 759-778. <http://dx.doi.org/10.1057/palgrave.jibs.8490118>.
- Thomsen, S., & Pedersen, T. (2000). Ownership structure and economic performance in the largest European companies. *Strategic Management Journal*, 21, 689-705. [http://dx.doi.org/10.1002/\(SICI\)1097-0266\(200006\)21:6<689::AID-SMJ115>3.0.CO;2-Y](http://dx.doi.org/10.1002/(SICI)1097-0266(200006)21:6<689::AID-SMJ115>3.0.CO;2-Y)
- Walker, P. L., Shenkir, W.Gof, & Barton, T. L. (2006). ERM in practice. *Internal Auditor*, 60(4), 51-55.
- Pagach, D., & Warr, R. (2007). An empirical investigation of the characteristics of firms adopting enterprise risk management. [Online] Available: [http://papers.ssrn.com/sol3/Delivery.cfm/SSRN\\_ID1010200\\_code75.pdf?abstractid=1010200&mired=1](http://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID1010200_code75.pdf?abstractid=1010200&mired=1).
- Yazid, A. S. (2001). *Perceptions and practices of financial Risk Management in Malaysia*. (Unpublished PhD thesis). UK.: Glasgow Caledonian University (GCU), Glasgow, Scotland.
- Yazid, A. S., & Muda, S. (2005). The Role of Foreign Exchange Risk Management. *Irish Journal of Management*, 26(2), 45-68.

Yazid, A. S., Hussin, M. R., & Wan Daud, W. N. (2011). An examination of enterprise risk management (ERM) practices among the government-linked companies (GLCs) in Malaysia, *International Business Research*, 4 (4).

Yazid, A. S., Razali, A. R. & Hussin, M. R. (2008). A preliminary study of enterprise risk management among Malaysian public listed companies. National Management Conference (NAMAC), Terengganu, Malaysia: Universiti Darul Iman.

Yazid, A. S., Hussin, M. R., & Razali, A. R. (2009). An empirical study of risk management best practices in public limited companies in Malaysia. *The Journal of Risk Management and Insurance*, 13, 1-22.

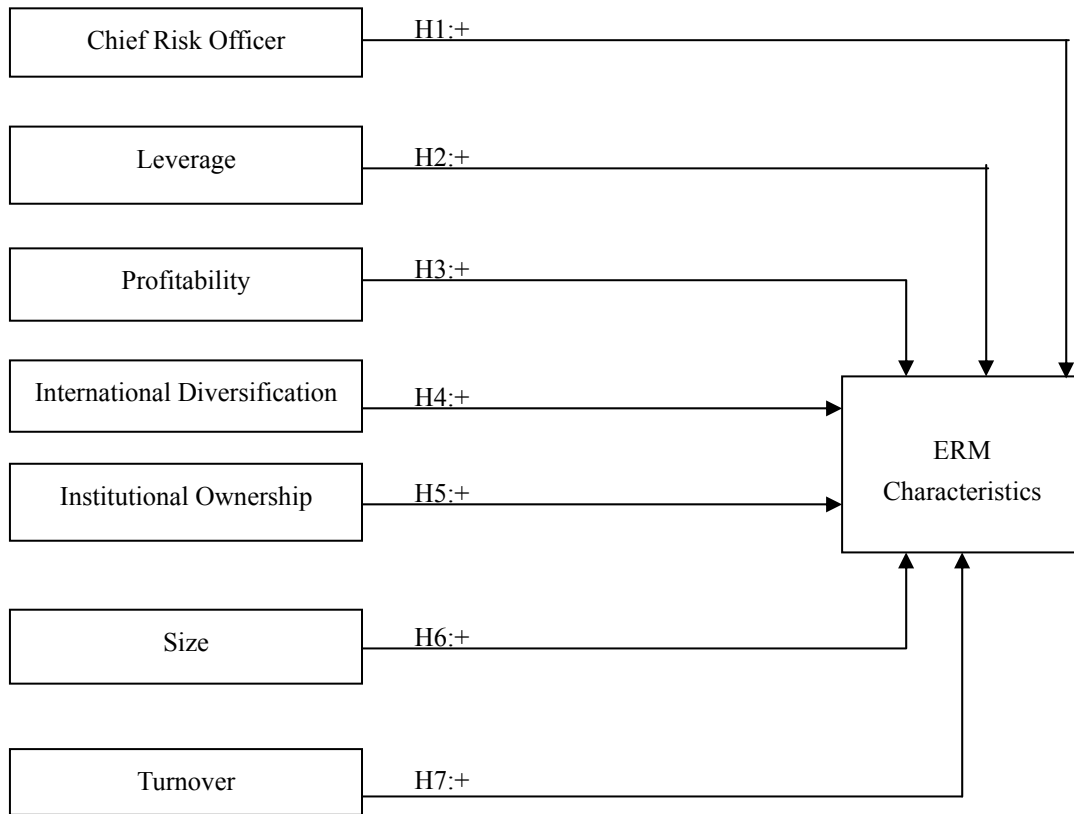


Figure 1. Proposed Framework



# The Influence of HR, IT, and Market Knowledge Competencies on the Performance of HR Managers in Food Exporting Companies in Thailand

Sarunya Lertputtarak

Graduate School of Commerce, Burapha University

169 Longhard Bangsaen Road, A.Muang, Chonburi 20131, Thailand

E-mail: sarunya\_L@hotmail.com

Received: August 11, 2011

Accepted: September 28, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p87

URL: <http://dx.doi.org/10.5539/ibr.v5n1p87>

*Sponsoring information: Graduate School of Commerce, Burapha University*

## Abstract

The main purposes are to study the characteristics of HR managers and their organizations as well as to examine their level of HR, IT, and market knowledge competencies, and also study the influence of HR, IT, and market knowledge competencies on performance. The samples of 1 000 HR managers companies were selected by random sampling from 2 270 food export companies listed in the Thailand's Exporters Directory. There were 374 questionnaires which were used for data analysis. The results showed that HR managers who have different personal data and organizational characteristics have significant differences in HR, IT, and market knowledge competencies at a significance level of 0.05. HR and market knowledge competencies can influence HR and organizational performance, whereas IT competencies cannot influence HR and organizational performance.

**Keywords:** Human resource competencies, Marketing knowledge competencies, IT competencies, Performance

## 1. Introduction

Businesses are adopting a global strategy and taking a global view of their operations. Organizations within contemporary business environments are facing intense competitive situations. Values, competitive advantages, and focus are required in order to succeed in the market place and appropriate and effective strategies are essential. The strategies should guide efforts in any part of the world and utilize an information system capable of monitoring the globe for opportunities and threats. Therefore, virtual organizations are eager to provide a flexible, cohesive and synergistic business necessary to operate successfully in the current business climate (Introna, 2001).

The food industry is one of the most important industries in Thailand. In 2009, the value of Thailand food exports was 778,056 million baht or 13.3% of total export products, 8.5% of GDP or 2.3% of total world food exports (Food Intelligence Center, 2010). The main products for export are shrimp, canned tuna, chicken, rice, canned pineapple, and sweet corn. However, there was a slightly lower rate of increase of food exports in late 2009 because of the political crisis. Moreover, the producers are currently faced with higher production costs, an unstable world economy, changes in petrol price, and an unstable Thai baht, therefore the producers have to review their production and management policies (The Federation of Thai Industry, 2010).

In a continuously changing environment it has become impossible to manage successfully without sustained personal development. Managers of organizations face the globalization of business, rapid technological changes, continual reorganizing and competence-based competition (Viitala, 2005). Therefore, managers' competencies need to be renewed on a regular basis.

The role of human resources (HR) is becoming more important for business accomplishment (Mohrman & Lawler, 1997; Wright, Candner, Moynihan, & Allen, 2005). Davenport (1999) stated that the value of human capital is increasing, that the tangible assets account for 62% of market value. But after ten years, hard assets account for 32% of market value, while intangible assets including human capital account for as much as 80% of the value of an organization (Hogan et al., 2002). This shows that organizational outcomes are increasingly affected by the knowledge, skills, and abilities of qualified employees.

Therefore to develop the competencies for the HR manager is also an essential task. The results of this study can develop and enhance the knowledge of HR managers so as to improve their skills in order to perform their work well and also the educational institutions can utilize the results of this study for conducting suitable courses to match the skills that HR managers require.

## **2. Review of Literature**

### *2.1 Resource-Based Theory on Human Resource Management*

In a complex society, human resource theorists have drawn heavily on resource-based logic to examine the impact of human resources and HR policies on firm performance (Barney & Wright, 1998 cited in Barney & Clark, 2007), especially on cost and quality in manufacturing (MacDuffie, 1995 cited in Barney & Clark, 2007). HR practices can influence the creation of significant firm specific human capital investment (Huselid & Becker, 1997 cited in Barney & Clark, 2007) and improve firm performance (Delaney and Huselid, 1996 cited in Barney & Clark, 2007).

Huselid (1995 cited in Barney & Clark, 2007) observed that investment in high performance work practices reflected in lower employee turnover and greater productivity and financial performance. HR involvement in strategy and perception of HR effectiveness links between strong employee commitment and generic strategies (Wright, McCormick & Sherman, 1998).

### *2.2 HR Competencies*

HR competencies were the set of characteristics contributing to effective HR performance enabling an organization to achieve its business strategies in a competitive market. It is suggested that the competency level of the HR manager has an influence on whether he/ she can get into the executive board chamber (Truss & Gratton, 1994 cited in Selmer & Chiu, 2004).

Ulrich (1997) surveyed 3 000 HR professionals, consultants, line executives and academicians and found that line executives thought that computer literacy was the most critical HR competence, while academicians argued that a broad knowledge of and having a vision for HR were the most important issues whereas consultants believed that ability to change things was the most important.

From the literature review about HR competencies, this study follows Jian, Pual, Minston and Patrick (2006) because their research studied HR managers' competencies in an Asian country. They studied the relationship between HR competencies and HR effectiveness as perceived by line manager and employees within 39 surveyed Taiwanese high-tech firms. The HR competencies in their study were:

#### **2.2.1 Knowledge of Business**

company's business model, profit chain, organizational structure, the industry, company's short and long term strategies, the functional roles and responsibilities of other departments within this company, knowledge about company's external environment and overall company's business operation.

#### **2.2.2 HR Functional Expertise**

HR functional roles such as recruiting, promoting and placing appropriate people to fit the job description and requirement, career planning services for employees, develop and organize training, develop competitive compensation system, design a non-financial motivational system, develop performance evaluation system, and etc.

#### **2.2.3 Managing Change**

HR professionals can use up-to-date methods and technologies to accomplish company's goals, can adapt HR practices and services in response to change for internal and external conditions, can use information data as a source to influence colleagues, can take a proactive role in bringing about change, can establish relationships necessary for change, and whether HR department has strong skills to cope with various changes within the organization.

### *2.3 IT Competencies*

IT competencies in this study means degree of computer-based technical expertise, knowledge of new computer-based innovations, and the knowledge to develop and maintain computer-based communication links with customers (Tippins & Sohi, 2003).

### *2.4 Market Knowledge Competencies*

Li and Calantone (1998) classified market knowledge competencies into four activities: market scanning, market information transmission, market information interpretation, and market knowledge utilization.

Market Scanning is defined as an information acquiring and gathering activity that involves both formal and informal searches about the marketplace (Aguilar 1967, Miller and Friesen 1982; Starbuck 1976). The market scanning behavior may vary according to the breadth/narrowness and formal/informal acquisition of information about the marketplace (Aguilar 1967; Daft and Weick 1984) by examining customer needs and wants, competitors, retailers, distributors, suppliers, technology, demography, economy, and other environmental forces that may affect firm performance (Day, 1994; Kohli and Jaworski, 1990; Sinkula, 1994; Slater and Narver, 1995).

The role of market information transmission activity in creating competitive advantage has been emphasized by marketing scholars (Maltz and Kohli, 1996; Sinkula, Baker & Noordewier, 1997; Slater & Narver, 1995). Market information transmission is defined as the extent to which market information is diffused among relevant users within a given organization ranging from transmitted information changes across customers, competitors, retailers/distributors, suppliers, and market trends (Beyer & Trice, 1982; Jaworski & Kohli, 1993; Moorman, 1995).

Market Information Interpretation is the distinctive feature of the interpretation activity which is the conversion of information into knowledge and the creation of shared understanding among managers (Weick and Roberts, 1993). Data represents individual facts and alone is meaningless. Data becomes information when the receiver decides whether the data is really information or just noise, based on relevancy to a work at hand and capacity to fulfill a goal.

Market Knowledge Utilization, which implies action-oriented use (Menon & Varadarajan, 1992), refers to the extent to which an organization directly applies market knowledge to influence marketing strategy-related actions (Moorman, 1995). Market knowledge can be utilized in decision-making, implementation, and evaluation of marketing decisions (Moorman, 1995).

### *2.5 HR Managers' Performance*

This study measures human resource competencies by selecting the measurement of Gomes, Yasin and Lisboa (2006) by comparing the increase/ decrease rate of each of the components because the HR manager can directly evaluate their work by themselves. Gomes, Yasin and Lisboa (2006) measured human resource performance by examining whether managers can perform (1) equal employee opportunity, (2) employee involvement, (3) employee training, (4) profit share or other incentive plans, (5) insurance plans (life, health and education), (6) employee turnover, (7) absentee rates, (8) safety record, and, (9) labor management relations.

### *2.6 Organizational Performance*

HR performance of this study will follow Huselid (1995) as his measurement covers both financial and non-financial measurement including: 1. The perceived organizational performance: quality of products, development of new products, ability to attract essential employees, ability to retain essential employees, satisfaction of customers, relations between management and other employees, relations among employees in general. 2. The perceived market performance: growth of sales, profitability, market share. 3. The perceived employee skills: staff selectivity, training effectiveness, employee motivation, structure of job and work, and internal labor market.

### *2.7 Conceptual Framework*

Insert Figure 1 Here

## **3. Methodology**

The questionnaires will be distributed to 1,000 respondents selected by simple random sampling from a total of 2 270 respondents who are HR managers in food export companies from Thailand's exporters directory (Department of Export Promotion, 2010). The data collection method is a questionnaire survey by mail and followed up by a telephone call. There were 398 returned questionnaires (response rate 39.80%) and 64 unreturned questionnaires (6.4%). There were 374 questionnaires that could be used for data analysis.

The questionnaires were divided into 5 sections: Section 1 contained the respondents' personal and organizational data. All the questions were in the form of a check list using both nominal and ordinal scales. Section 2 was about the current level of expertise in HR competencies that was developed from Jian, et al. (2006) in the form of a Likert scale 5 rating scale. Section 3 was about the current level of expertise in IT competencies that was developed from Tippins and Sohi (2003) in the form of a Likert scale 5 rating scale. Section 4 was about the current level of expertise in market knowledge competencies that was in the form of a Likert scale 5 rating scale. Section 5 contained two parts: 1) HR performance is measured by asking respondents to assess their business unit's performance by comparing performance between 2008 and 2009. The questionnaire was developed from Gomes, Yasin, & Lisboa (2006). 2) Organizational performance: the questionnaire was developed from Huselid (1995). Relative performance on each dimension was measured by asking respondents to assess their organizational

performance relative to that of major competitors (Vorhies, Harker, Rao, 1999; Huang, Chen, & Yien, 2007). Five point Likert-type scales were used.

Results were; reliability analysis of HR competencies  $\alpha=0.952$ , IT competencies  $\alpha=0.964$ , Marketing knowledge competencies  $\alpha=0.917$ , HR performance  $\alpha=0.871$ , and organizational performance  $\alpha=0.907$ .

#### 4. Results

##### 4.1 Profiles of Respondents and Their Organizations

The majority of respondents were female with 189 persons (50.5%), age ranging from 41-50 years old (38%), the predominant level of education was bachelor degree at 196 persons (52.4%), 113 persons (30.2%) had 6-10 years working experience as HR managers, 157 persons (42%) had a monthly income between 20 001-50 000 baht and 263 persons (30.3%) were responsible for several management duties including HR.

The majority of the respondents' organizations at 240 companies (64.2%) had authorized capital less than 2 million baht, 322 companies (86.10%) were Thai, 139 companies (37.20%) had more than 500 workers, and 124 companies (33.10%) produced canned food/foods in containers.

##### 4.2 Descriptive Analysis of Variables

The HR competencies of respondents were at a moderate level ( $\bar{X} = 3.45$ ), IT competencies were at a moderate level ( $\bar{X} = 3.28$ ), market knowledge competencies were at a moderate level too ( $\bar{X} = 3.45$ ). HR performance in 2009 can be performed better than in 2008 ( $\bar{X} = 3.37$ ) and organizational performance in 2009 can be performed better than competitors ( $\bar{X} = 3.30$ ).

##### 4.3 Results of Hypothesis testing

Hypothesis 1: HR managers who have different personal data have a significant difference in HR competencies

Insert Table 1 Here

Tables 1 shows HR managers who have different personal data have a significant difference in HR competencies at a level of significance of 0.05.

Hypothesis 2: HR managers who work with different organizational characteristics have a significant difference in HR competencies

Insert Table 2 Here

Table 2 shows HR managers that work in organizations which have different authorized capital and numbers of workers and type of main product have a significant difference in HR competencies at a level of significance of 0.05. While HR managers who work in organizations that have a different nationality have no significant difference in HR competencies.

Hypothesis 3: HR managers who have different personal data have a significant difference in IT competencies

Insert Table 3 Here

Table 3 shows HR managers who have different genders, ages, levels of education and monthly incomes have a significant difference in IT competencies at a level of significance of 0.05. While HR managers who have different working experience and task responsibilities have no significant difference in IT competencies.

Hypothesis 4: HR managers who work in different organizational characteristics have a significant difference in IT competencies

Insert Table 4 Here

Table 4 shows HR managers that work in organizations which have different authorized capital, nationality and number of workers have no significant difference in IT competencies at a level of significance of 0.05. While HR managers who work in organizations which have different types of main products have a significant difference in IT competencies.

Hypothesis 5: HR managers who have different personal data have significant differences in market knowledge competencies.

Insert Table 5 Here

Table 5 shows HR managers who have different genders, ages, working experience and monthly incomes have a significant difference in market knowledge competencies at a level of significance of 0.05. While HR managers who

have different levels of education and task responsibilities have no significant difference in market knowledge competencies.

Hypothesis 6: HR managers who work in different organizational characteristics have a significant difference in market knowledge competencies

Insert Table 6 Here

Table 6 shows HR managers who work in organizations which have different authorized capital, numbers of workers and types of main products have no significant difference in market knowledge competencies. HR managers who work in an organization that has a different nationality have a significant difference in market knowledge competencies.

Hypothesis 7: HR, IT, and market knowledge competencies can influence HR performance.

Insert Table 7 Here

Tables 7 and 8 show the hypothesis testing by using Stepwise Multiple Linear Regression, and the results show that HR competencies and market knowledge competencies can influence HR performance. IT competencies cannot influence HR performance. The regression model can forecast the change in the dependent variable at 34.2%.

The Non-standardized model:  $HR\ performance = 1.732 + 0.399 (HR\ competencies)^* + 0.077 (Market\ knowledge\ competencies)^* + 0.055 (IT\ competencies) + e$

Hypothesis 8: HR, IT, and market knowledge competencies can influence organizational performance.

Insert Table 8 Here

In solving the hypothesis by using Stepwise Multiple Linear Regression the results show that market knowledge competencies and HR competencies can influence organizational performance. IT competencies cannot influence organizational performance. The regression model can forecast the change in the dependent variable at 21.0%.

The Non-standardized model:  $Organizational\ performance = 1.327 + 0.397 (Market\ knowledge\ competencies)^* + 0.176 (HR\ competencies)^* + 0.041 (IT\ competencies) + e$

## 5. Discussion

HR competencies were the set of characteristics contributing to effective HR performance enabling an organization to achieve its business strategies in a competitive market (Mohrman & Lawler, 1997; Wright, Candner, Moynihan, & Allen, 2005). The results of this study show that HR competencies of respondents were only at a moderate level. On examining each HR competency component which had knowledge of business at a high level but the HR functional expertise competency and managing change competency were at a moderate level.

After testing the hypotheses comparing the HR competencies from the difference in respondents' personal data, the results showed that females have more HR competencies than males. Managers between the ages of 31-40 years old have more HR competencies than managers of the other age groups. The managers who have bachelor degrees have more HR competencies than managers who have master degrees and below bachelor degrees. There might be other factors in their personal characteristics that affect their competencies, such as working experience, as the results also revealed that managers who have worked for 1-10 years have more HR competencies than managers who have less working experience and HR managers who performed only HR tasks have more HR competencies than managers who have to not only perform HR tasks but also have to be responsible for other tasks.

Furthermore, HR managers who worked in organizations that have higher authorized capital and numbers of workers have more HR companies. When comparing Thai and foreign organizations, Thai companies have more HR competencies. Lastly, managers who worked in organizations whose main products were chilled/ frozen foods and semi-processed foods from animals have higher HR competencies. On the other hand, managers who work in organizations which have authorized capital less than 2 million baht, foreign nationality, less than 50 workers and produce semi-processed food from plants and canned food/ food in containers have the lowest HR competencies.

Comparing IT competencies from the difference in respondents' personal data, the results showed that female managers have more IT competencies than males. The results are the same as HR competencies for age, as managers whose ages are between 31-40 years old have the highest IT competencies, while 21-30 year old managers have the lowest level of competencies. The managers who have bachelor degrees have more HR competencies than managers who have master degrees and below bachelor degrees. Managers who have working experience of 16-20 years have more IT competencies than managers who have less working experience and also those who work for more than 20 years. Managers who earn more income have more IT competencies. Nevertheless, managers who perform only HR tasks and persons who have to manage other tasks have equal IT competencies.

Managers who work in organizations that have authorized capital of 2 million-100 million baht, work in Thai companies, have less than 50 workers persons and produce semi-processed foods from animals have the highest IT competencies. In contrast, managers in organizations that have authorized capital of more than 100 million baht, work in joint ventures between Thai and foreign companies, have less than 50 workers and produce canned food/foods in containers have the lowest IT competencies.

Comparing market knowledge competencies from the difference in respondents' personal data, the results showed that female managers have more market knowledge competencies than males. Managers aged 31-40 years old have more market knowledge competencies than managers of other ages. The managers who have master degrees have more market knowledge competencies than managers who have lower than master degrees. Managers who have worked for more than 20 years have more market knowledge competencies than managers who have less working experience. Nevertheless, managers who perform only HR tasks and persons who have to manage other tasks have equal market knowledge competencies.

Managers who work in organizations that have authorized capital of 2 million-100 million baht, work in Thai companies, have more than 200 workers and produce semi-processed foods from animals have the highest market knowledge competencies. In contrast, managers in organizations that have authorized capital of more than 100 million baht, work in joint ventures between Thai and foreign companies, have 50-200 workers and produce chilled/frozen foods and semi-processed foods from plants have the lowest IT competencies.

HR practices can influence and improve firm performance (Delaney and Huselid, 1996, cited in Barney, 2007). According to results of this study, the HR performance in 2009 was better than in 2008 and the organizational performance in 2009 was better than the competitors. Testing multiple regression analysis found that HR and marketing competencies can influence HR and organizational performance. Huselid (1995, cited in Barney, 2007) observed that investment in high performance work practices reflected in lower employee turnover, greater productivity and financial performance. HR involvement in strategy and perception of HR effectiveness (Wright, McCormick, & Sherman, 1998), showed links between strong employee commitment and generic strategies (Lee & Miller, 1999). Marketing knowledge can influence firm performance as well. Luigi and Kwaku (2007) studied market knowledge dimensions and cross-functional collaboration thus examining the different routes to product innovation performance. The results from a double-informant survey of high-tech firms in China show that market knowledge breadth, depth, and specificity positively influence product innovation performance. Therefore, in order to increase HR performance and organizational performance, firms should place emphasis on developing HR and marketing knowledge competencies for HR managers.

However, the results of this study showed that IT competencies cannot influence HR and organizational performance. These results occurred in Thailand because IT competencies and equipment are underdeveloped, and many organizations did not pay attention to getting HR managers to learn more IT skills. But from previous research, IT competencies are important, Ravichandran (2007) studied IT competencies, innovation capacity, organizational agility, performance impact and the moderating effects of environmental characteristics. The results showed that firms with superior information system capabilities coupled with an aggressive IT investment orientation created digital options that enable firms to be agile. The innovativeness and the tight coupling of the firm's innovation efforts with the core organization have a positive relationship with organizational agility. Finally, organizational agility has a strong positive impact on firm performance.

## **6. Conclusions and Recommendation**

### *6.1 Conclusions and Recommendation*

The results show that market knowledge competencies and HR competencies can influence organizational performance but IT competencies cannot influence organizational performance. Although HR competencies can influence firm performance, HR managers have only moderate HR competencies. Therefore, companies should take responsibility to develop the skills of HR managers. First of all, managers have less knowledge about the companies' business, organizational structure and profit chain. Next, functional expertise competency, such as how to develop a competitive compensation system with line managers to improve on recruiting and retention objectives, offer career planning services to employees in need, and to develop and organize training programs that meet the needs of other functional departments. Finally, developing managing-change competency by increasing knowledge about a proactive role in bringing about change, how to use information data as a source to influence colleagues, and how to adapt HR practices and service in response to change in external conditions such as competitor retaliation, labor laws and regulation and market situations.

HR managers should develop their market knowledge competencies in order to gain more advantage from marketing data derived from research and other sources of information. They should spend time discussing about future

customer needs with other functional departments. Then, develop the expertise to generate explanations for the given market information. Finally, provide a clear direction to other departments regarding their role in implementation.

IT competencies did not influence organizational performance in this study, but the previous studies stated the important roles of IT competencies. Companies should pay attention to develop IT competencies for HR managers as well by providing and maintaining a climate that nurtures IT to be the best, increase expertise to plan for security control, standards compliance, disaster recovery, establish an effective and flexible IT planning process, develop a robust IT plan, etc.

Organizations should strive to build a climate of organizational learning by creating the infrastructure for learning and the applications of learning.

Moreover, educational administrators should take the responsibility to cultivate prospective human resource and HRD professionals in formal education programs. The teaching courses should develop and support the requirements of HR managers and their employers. HR managers should have the opportunity to learn not only about HR functions but also other areas of management, such as marketing and IT knowledge. The other competencies that are essential for HR managers should be added into educational programs because HR managers should work to serve as effective members of the management team. They need to perform their functions in a way that takes into account the financial, strategic and technological goals of the institution.

### 6.2 Recommendations for Further Study

This study was limited to the HR managers on the list of Thailand's Exporters Directory. Further investigation might be of value to explore other types of organizations on a wider base such as companies from other industries or non-profit or government organizations.

A study should compare the perceptions identified in Thailand with other countries in South East Asia.

The other competencies should be added into further studies, because HR managers are now performing multi-tasks in cross functions of departments, and if possible, it should rank the roles and competencies required by HR managers, as each business and industry has its own needs and need assessments in order to train them in the proper direction and also bring benefits to designing curriculum in educational institutions.

### References

- Aguilar, F. J. (1967). *Scanning the business environment*. New York: Macmillan.
- Barnay, J. B., & Clark, D. N. (2007). *Resource-based theory: Creating and sustaining competitive advantage*. New York: Oxford University Press.
- Barney, J. B., & Wright, P. M. (1998). On becoming a strategic partner: The role of human resources in gaining competitive advantage. *Human Resource Management*, 37, 31-46. [http://dx.doi.org/10.1002/\(SICI\)1099-050X\(199821\)37:1<31::AID-HRM4>3.0.CO;2-W](http://dx.doi.org/10.1002/(SICI)1099-050X(199821)37:1<31::AID-HRM4>3.0.CO;2-W)
- Beyer, J. M., & Trice M. H. (1982). The utilization process: A conceptual framework and synthesis of empirical findings. *Administrative Science Quarterly*, 27(4), 591-622. <http://dx.doi.org/10.2307/2392533>
- Daft, R. L., & Weick, K. E. (1984). Toward a model of organizations as interpretation systems. *Academy of Management Review*, 9(2), 284-95. <http://dx.doi.org/10.2307/258441>
- Davenport, T. (1999). *Human Capital: what it is and why people invest in it*. San Francisco: Jossey-Bass.
- Day, G. S. (1994). The capabilities of market-driven organizations. *Journal of Marketing*, 58(4), 37-52. <http://dx.doi.org/10.2307/1251915>
- Delaney, J. Y., & Huselid, M. A. (1996). The impact of human resource management practices on perceptions of organizational performance. *Academy of Managerial Journal*, 39(4), 949- 969. <http://dx.doi.org/10.2307/256718>
- Food Intelligence Center. (2010). The structure of food industry in Thailand. [Online] Available: <http://fic.nfi.or.th/th/thaifood/default.asp>. (May 28, 2010)
- Gomes, F. C., Yasin, M. M., & Lisboa, V. J. (2006). Performance measurement practices in manufacturing firms: empirical investigation. *Journal of Manufacturing Technology Management*, 17(2), 144-167. <http://dx.doi.org/10.1108/17410380610642241>
- Han, J., Chou, P., Chao, M., & Wright, P. M. (2006). The HR competencies-HR effectiveness link: A study in Taiwanese high-tech companies. *Human Resource Management*. 45(3), 391-406. doi:10.1002/hrm.20114, <http://dx.doi.org/10.1002/hrm.20114>

- Hogan, J., Lehmann, D., Merino, M., Srivastava, R., Thomas, J., & Verhoef, P. (2002). Linking customer assets to financial performance. *Journal of Service Research*, 5(1), 26-38. <http://dx.doi.org/10.1177/1094670502005001004>
- Huang, Mu-Jung, Chen, Mu-Jen, & Yien, K. (2007). Comparing with your main competitor: The single most important task of knowledge management performance measurement. *Journal of Information Science*, 33(4), 416-434. <http://dx.doi.org/10.1177/0165551506076217>
- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 37(8), 635-372. <http://dx.doi.org/10.2307/256741>
- Huselid, M. A., & Backer, B. E. (1997). The impact of high performance work systems, implementation effectiveness, and alignment with strategy on shareholder wealth. *Academy of Management Best Papers Proceedings*, 8(1), 144-148. <http://dx.doi.org/10.5465/AMBPP.1997.4981101>
- Introna, L. (2001). *Defining the virtual organization*, in Barnes, S., Hunt, B. 2001. Oxford: Butterworth-Heinemann, 143-152.
- Jaworski, B. J., & Ajay K. K. (1993). Market orientation: Antecedents and consequences. *Journal of Marketing*, 57(3), 53-70. <http://dx.doi.org/10.2307/1251854>
- Kohli, A. K., & Jawarski J. B. (1990). Market orientation: The construct research propositions, and managerial implications. *Journal of Marketing*, 54(2), 1-18. <http://dx.doi.org/10.2307/1251866>
- Li, T., & Calantone, J. R. (1998). The impact of market knowledge competence on new product advantage: Conceptualization and empirical examination. *Journal of Marketing*, 62(4), 13-29. <http://dx.doi.org/10.2307/1252284>.
- Luigi, M. De Luca, & Kwaku, A. G. (2007). Market knowledge dimensions and cross-functional collaboration: Examining the different routes to product innovation performance. *Journal of Marketing*, 71(1), 95-112. <http://dx.doi.org/10.1509/jmkg.71.1.95>
- MacDuffie, J. (1995). Human resource bundles and manufacturing performance: organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review*, 49, 197-221. <http://dx.doi.org/10.2307/2524483>
- Maltz, E., & Kohli, A. K. (1996). Market intelligence dissemination across functional boundaries. *Journal of Marketing Research*, 33(1), 47-61. <http://dx.doi.org/10.2307/3152012>
- Menon, A., & Varadarajan P. R. (1992). A model of marketing knowledge use within firms. *Journal of Marketing*, 56(4), 53-71. <http://dx.doi.org/10.2307/1251986>
- Miller, D., & Friesen, P. H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal*, 3(1), 1-25. <http://dx.doi.org/10.1002/smj.4250030102>
- Mohrman, S. A., & Lawler, E. E. (1997). *Transforming the human resource function*. New York: Wiley. [http://dx.doi.org/10.1002/\(SICI\)1099-050X\(199721\)36:1<157::AID-HRM25>3.3.CO;2-1](http://dx.doi.org/10.1002/(SICI)1099-050X(199721)36:1<157::AID-HRM25>3.3.CO;2-1).
- Moorman, C. (1995). Organizational market information processes: Cultural antecedents and new product outcomes. *Journal of Marketing Research*, 32(3), 318-335. <http://dx.doi.org/10.2307/3151984>
- Ravichandran, T. (2007). IT competencies, innovation capacity and organizational agility: Performance impact and the moderating effects of environmental characteristics. [Online] Available: <http://www.citi.uconn.edu/cist07/7b.pdf>.
- Selmer, J., & Chiu, R. (2004). Required human resource competencies in the future: A framework in developing HR executives in Hong Kong. *Journal of World Business*, 38, 324-336. <http://dx.doi.org/10.1016/j.jwb.2004.08.001>.
- Sinkula, J. M. (1994). Market information processing and organizational learning. *Journal of marketing*, 58(1), 35-45., <http://dx.doi.org/10.2307/1252249>
- Sinkula, J. M., Baker, W. E., & Noordewier, T. (1997). A framework for market-based organizational learning: Linking values, knowledge, and behavior. *Journal of the Academy of Marketing Science*, 25(4), 305-18. <http://dx.doi.org/10.1177/0092070397254003>
- Slater, S. F., & Narver, J. C. (1995). Market orientation and the learning organization. *Journal of Marketing*, 59(3), 63-74. <http://dx.doi.org/10.2307/1252120>
- Starbuck, W. H. (1976). *Organizations and their environments*. Chicago: Rand McNally.



The Federation of Thai Industry. (2010). Summary of food industry and its export trend of Thailand in year 2009. [Online] Available: <http://www.fti.or.th/2008/thai/ftitechnicalsubdetail.aspx?id=48>.

Tippins, J. M., & Sohi, R. S. (2003). IT competencies and firm performance: IS organizational learning a missing link? *Strategic Management Journal*, 24, 745-761. <http://dx.doi.org/10.1002/smj.337>

Truss, C., & Gratton, L. (1994). Strategic human resource management: A conceptual approach. *International Journal of Human Resource Management*, 5(3), 663-686. <http://dx.doi.org/10.1080/09585199400000053>

Ulrich, D. (1997). *Human resource champions*. USA: Harvard Business School Press.

Viitala, R. (2005). Perceived development needs of managers compared to an integrated management competency model. *Journal of Workplace Learning*, 17(7), 436-451. <http://dx.doi.org/10.1108/13665620510620025>

Vorhies, D. W., Harker, M., & Rao, C. P. (1999). The capabilities and performance advantages of market-driven firms. *European Journal of Marketing*, 33(11/12), 1171-1202. <http://dx.doi.org/10.1108/03090569910292339>

Weick, K. E., & Roberts, K. H. (1993). Collective mind in organizations: heedful interrelating on flight decks. *Administrative Science Quarterly*, 38(3), 357-81. <http://dx.doi.org/10.2307/2393372>

Wright, P., Cardner, T., Moynihan, L., & Allen, M. (2005). The relationship between HR practices and firm performance: Examining causal order. *Personnel Psychology*, 58, 409-446. <http://dx.doi.org/10.1111/j.1744-6570.2005.00487.x>

Wright, P. M., McCormick, B., & Sherman, W. S. (1998). Strategy, core competence, and HR involvement as determinants of HR effectiveness and refinery performance. *Human Resource Management*, 37(1), 17-29. [http://dx.doi.org/10.1002/\(SICI\)1099-050X\(199821\)37:1<17::AID-HRM3>3.0.CO;2-Y](http://dx.doi.org/10.1002/(SICI)1099-050X(199821)37:1<17::AID-HRM3>3.0.CO;2-Y)

Table 1. Results of testing hypothesis 1

Personal data	Gender	Age	Education	Working experience	Monthly income	Task responsibility
HR competencies	t = -2.99 p-value 0.003*	F= 16.81 p-value 0.000*	F=12.02 p-value 0.000*	F=3.61 p-value 0.007*	F=6.66 p-value 0.000*	t = 1.99 p-value 0.047*

Table 2. Results of testing hypothesis 2

Organizational characteristics	Authorized capital	Nationality	Number of workers	Type of main product
HR competencies	F = 5.94 p-value 0.003*	Brown-Forsythe = 1.06 p-value 0.352	F = 3.85 p-value 0.022*	F=3.57 p-value 0.007*

Table 3. Results of testing hypothesis 3

Personal data	Gender	Age	Education	Working experience	Monthly income	Task responsibility
IT competencies	t = -2.99 p-value 0.003*	F= 15.39 p-value 0.000*	F= 9.65 p-value 0.000*	F= 16.81 p-value 0.443	F= 13.67 p-value 0.000*	t = 1.09 p-value 0.276

Table 4. Results of testing hypothesis 4

Organizational characteristics	Authorized capital	Nationality	Number of workers	Type of main product
IT competencies	F = 0.34 p-value 0.709	Brown-Forsythe = 1.53 p-value 0.226	Brown-Forsythe = 1.08 p-value 0.834	F = 4.14 p-value 0.003*

Table 5. Results of testing hypothesis 5

Personal data	Gender	Age	Education	Working experience	Monthly income	Task responsibility
Market knowledge competencies	t = -3.24 p-value 0.001*	F= 3.16 p-value 0.025*	F= 2.05 p-value 0.130	Brown-Forsythe = 3.18 p-value 0.014*	F= 16.43 p-value 0.000*	t = 0.70 p-value 0.479

Table 6. Results of testing hypothesis 6

Organizational characteristics	Authorized capital	Nationality	Number of workers	Type of main product
Market knowledge competencies	F= 2.69 p-value 0.069	F= 4.43 p-value 0.012*	Brown-Forsythe = 2.78 p-value 0.063	F= 0.33 p-value 0.853

Table 7. Results of testing hypothesis 7 the influence of HR competencies, IT competencies, and market knowledge competencies on HR performance

	Unstandardized Coefficients		Standardized Coefficients	t	P-value	Tolerance	VIF
	B	Std. Error	Beta				
(Constant)	1.732	.120		14.40	.000*		
HR competencies	.399	.041	.501	9.62	.000*	0.51	1.92
Market knowledge competencies	.077	.032	.126	2.42	.016*	0.48	2.08
IT competencies	0.055	0.46	0.079	1.187	0.236	0.39	2.50

R = 0.585, R<sup>2</sup> = 0.342 or 34.2%, Adjusted R<sup>2</sup> = 0.338, Durbin-Watson = 1.858, F = 96.29, P-value = 0.000\*

Table 8. Results of testing hypothesis 8 the influence of HR competencies, IT competencies, and market knowledge competencies on organizational performance

	Unstandardized Coefficients		Standardized Coefficients	t	P-value	Tolerance	VIF
	B	Std. Error	Beta				
(Constant)	1.327	.230		5.78	.000*		
Market knowledge competencies	.397	.061	.501	6.51	.000*	0.04	2.08
HR competencies	.176	.079	.127	2.21	.027*	0.51	1.92

R = 0.485, R<sup>2</sup> = 0.210 or 21.0%, Adjusted R<sup>2</sup> = 0.205, Durbin-Watson = 1.817, F = 49.22 (P-value = 0.000\*)

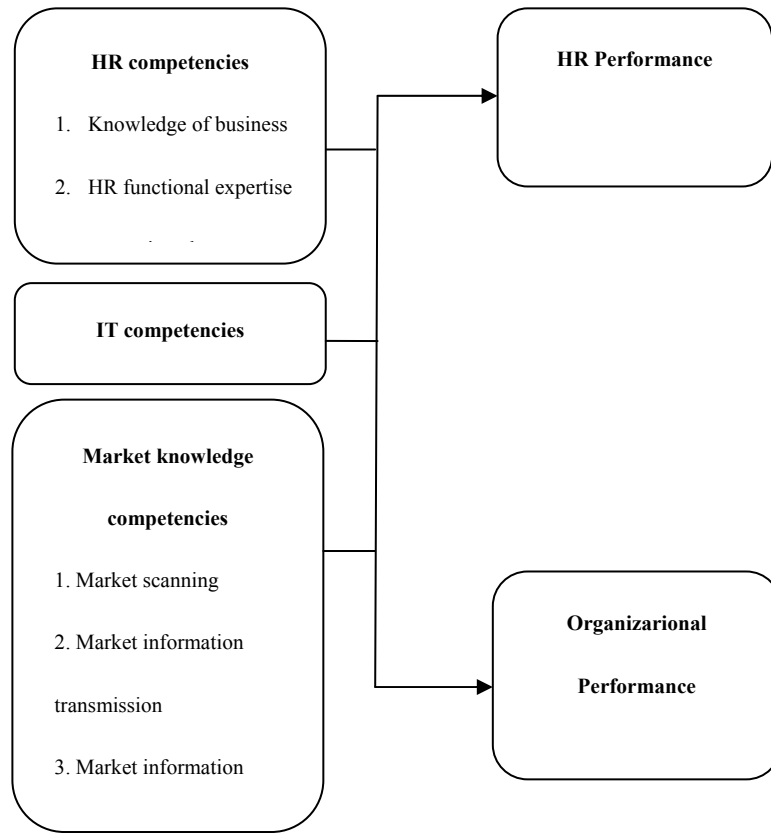


Figure 1. Conceptual Framework

# How do Service Encounters Impact on Relationship Benefits

Chao-Hung Wang

Department of Marketing and Logistics Management, Ling Tung University

1 Ling Tung Road, Nantun, Taichung 40852, Taiwan, R.O.C.

Tel: 886-4-2389-2088 Ext. 3612 E-mail: chw@mail.ltu.edu.tw

Li-Chang Hsu (Corresponding author)

Department of Finance, Ling Tung University

1 Ling Tung Road, Nantun, Taichung 40852, Taiwan, R.O.C.

Tel: 886-4-2389-2088 Ext. 3642 E-mail: ltcht87@mail.ltu.edu.tw

Received: September 22, 2011

Accepted: November 23, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p98

URL: <http://dx.doi.org/10.5539/ibr.v5n1p98>

## Abstract

The literature has generally held that interpersonal-based service encounters strongly affect the relationship benefits, though technology-based service encounters are increasing importance. However, there has been no systematic comparison of the impact of two service encounters on relationship benefits. We test hypotheses about the respective effects of both service encounters on different relationship benefits in two services industries. The results provide support for the proposal model and indicate that there are higher special treatment benefits when the technology-based service encounter is higher. In addition, the interpersonal-based service encounter has significant positive effect on the confidence benefit. However, the technology-based service encounter leads to significant negative effect on the social benefit.

**Keywords:** Service encounter, Interpersonal, Technology, Relationship benefit

## 1. Introduction

As the services marketplace becomes more competitive, it is increasingly important for core solutions such as physical goods or services to be good enough to provide a competitive advantage. What creates a sustainable competitive advantage is the development of every element in the customer relationship, especially service encounters (Beatson et al., 2007). A service encounter is a process which customers interact directly with a service (Bateson and Hoffman, 2010). If service encounters follow each other in a very brief (e.g., a monthly hair cut service) or over a longer time frame (e.g., an annual tourism package), a relationship may emerge. If a customer experiences continuing valuable contacts with a given provider, a relationship may further develop. Hence, developing value-generating service encounters in the process of a service delivery should be one of the highest priorities in a services marketing strategy (Hogg et al., 2003).

The concept of service encounters has gained increasing attention in services management literature (Simon and Usunier, 2007; Magnus and Rosengren, 2010) during the past decade. Services management academics and practitioners have thoroughly researched this issue, viewing it as one of alternatives for improving service delivery. In the past, service delivery has generally focused on interpersonal-based service encounters (IBSE); however, the service industry is facing huge challenges because of technology innovation. Interpersonal-based service encounters refer to a process in which the service provider always interacts with the customer on a face-to-face base (Lovelock et al., 2009). In contrast, various technologies such as automated teller machines (ATMs) and the Internet have been incorporated into the service delivery process making it possible to create new services (Massad et al., 2006). For example, the Internet enables firms to develop interactive contacts with their customers, and when new elements are added to the service components of customer relationships, these relationships are simultaneously expanded. Generally, a new technology makes it easier to create relationships with customers, but the exact effects of new technologies on customer relationships compared with the IBSE remain relatively unexplored.

When customers interact with the providers, they may use the Internet, ATMs, vending machines, or other electronic interfaces. All these interactions with technological resources are considered technology-based service encounters

(TBSE), refers to any facility that enables customers to produce services for themselves without assistance from firm employees (Meuter et al., 2005). The development of technology and increased use of the Internet offers new opportunities for service providers to develop their service offerings, such as paying bills from a home computer, using ATMs to withdraw money, or purchasing a travel package through the Internet (Bitner et al., 2000). The use of technology gives customers the advantages of easily and quickly completing the service process.

From the viewpoint of the service sectors, both IBSE and TBSE have the same purposes that would deliver good service processes to customers, create customer loyalty, and establish long term relationships (Fang and Hsu, 2005; Lin, 2007). From the customer viewpoint, whether or not the customer is willing to maintain a relationship with the service provider is subject to the benefits which are generated from the dyadic interaction; namely relationship benefits (Hennig-Thurau et al., 2002). Relationship benefits refer to a customer's feeling trust, or social and special treatment bonds that have been established between the parties (Grönroos, 2007). While relationship benefit is often included as an outcome variable in customer relationship management, the comparison between the two kinds of service encounter and the various relationship benefits received relatively little research attention. We attempt to compare the respective effects of IBSE and TBSE on the relationship benefits because comparing the effect of different service encounters increases the understanding of relationship benefits. The differentiation of the service encounters and their impacts on relationship benefits should be a significant issue for services management academics and practitioners.

## 2. Theoretical Background and Hypotheses

This study has segmented service encounters into two levels of interaction, representing the extent of interaction with service personnel and with technological elements. Figure 1 depicts the causal relationships between service encounters and relationship benefits from these encounters. More specifically, the Figure 1 shows the separate effect of two service encounters (i.e., IBSE and TBSE) on the three different concepts of relationship benefits (i.e., special treatment benefit, confidence benefit, and social benefit), as discussed in the following sections.

Insert Figure 1 Here

Customers evaluate the benefits which have occurred in the core service offerings and the dyad relationship, and then decide to whether establish and maintain the relationships with the provider (Beatty et al., 1996). Gwinner et al. (1998) distinguished between three types of relationship benefits: special treatment benefit, confidence benefit, and social benefit. The differences between these benefits reflect the relationships that bind the customer to the provider. Customers are actively involved with the service provider and its personnel during service delivery (Singh and Tor, 2008). All people-processing services have high levels of contact such as medical services, management consulting, or car repairing. IBSE is concerned with personal interaction and dual communication of participants toward the transaction which they are involved in (Suprenant and Solomon, 1987; Keillor et al., 2004). The basic value of IBSE is perceived in various ways, depending on how friendly and kindly the interactions are perceived, and how well customers understand their provider's role in the service delivery (Noone et al., 2009).

When the service provider succeeds in providing special treatment benefit (e.g., customized service) to its customer based on a high level of face-to-face interaction, each customer is treated as a specialized segment (Dolen et al., 2004). Special treatment benefit is defined in terms of saving time, discount price, or special rewards (Bettencourt and Gwinner, 1996). A customer may have encounters with different IBSEs (e.g., customer-contact personnel, the ordering department, and the billing department). The customer's positively evaluation of the experiences with the different IBSEs, along with the repeated discrete transactions, will create an overall customer perception of satisfaction with IBSE, and then will feel the special treatment benefit (Riley, 2007).

Dolen et al. (2004) also posited that salespersons supply customerization service according to limited cues from customers (e.g., tone, attitude, clothing, and age). Hotels, for example, capture their customers' preferences by satisfying their customers' special demands. When those customers arrive at the hotel, they experience friendly contact during check-in and find that their individual needs have already been anticipated, from offering priority reservations to preferred drinks in the room refrigerator. Thus, when the service provider has a stable customer base with satisfied customers who through positive word-of-mouth referrals of good IBSE may bring in new customers, in principle nothing else than traditional marketing activity is needed. Because of a customer-focused IBSE and consequently a successful interpersonal interactive process, the customers satisfied enough to generate the special treatment benefit (Cowley et al., 2005; Sujana et al., 1998). Hence:

H1: IBSE will be positively related to the customer's special treatment benefit.

Confidence benefit is generally referred to as a type of trust and a perceived low level of risk in long term relationships (Morgan and Hunt, 1994; Heffernan, 2004). Trust is created through dialogue, conversation, gestures,

and other interpersonal communication (Bruhn, 2003). As Homans (1950) argued, trust is produced through a gradual process of interpersonal interaction. In IBSE, a customer can directly communicate with the service providers, and so the dyad is more likely to communicate the mutual intention (Patterson and Smith, 2001). There are a number of IBSE between the service provider and the customer, including various series of moments of truth. The accessibility of a restaurant or a business consultant, the appearance and behavior of waiting staff, bank staff, travel agency representatives, and how these service employees perform their task, what they say and how they do it also influence the customer's confidence (Wang et al., 2009).

In the context of service delivery, customers must rely on providers to give credence to the contact since their information largely depends on the provider's honesty. A customer, thus, can perceive the level of trust in a service encounter, reduce uncertainty, and lower anxiety. In addition to the trust in dyadic interactions, warm feelings are often cited as one of reasons for choosing a provider in service delivery (Bendapudi and Berry, 1997). Relationship management activities by providers are often geared towards achieving the customer's confidence by information-sharing on dyadic exchanges and the cooperative attitude of interpersonal interaction (Sweeney and Webb, 2002). For instance, in the banking industry an honest information exchange (e.g., customers' credit evaluation) will encourage bank managers to work more closely with their customers. Thus, we posit that the better IBSE will inspire customer confidence benefit.

H2: IBSE will be positively related to the customer's perceived confidence benefit.

The concept of social benefit is frequently associated with friendship, affinity, and belonging (Goodwin, 1997; Price and Arnould, 1999). It is typically based on personal relationships between providers and customers (Suprenant and Solomon, 1987). As the IBSE is central to the customer's satisfaction perception, we would expect a positive relationship between IBSE and social benefit. For example, hairdressing is highly interpersonal service encounter. When a customer goes for a haircut, the hairdresser addresses customer by name or asks why he hasn't been in for a long time. A provider that has maintained mutual interpersonal relationships with a level friendship has a better chance of creating the social benefit (Gremler and Gwinner, 2000). In other words, the interpersonal relationships that exist between customer and employee foster the development of affinity between the parties (Raajpoot, 2004).

Indeed, interpersonal interaction between customers and employees leads customers to have higher levels of belongingness to the service providers (Reynolds and Beatty, 1999). The interaction between customers and employees is central to the interpersonal contact in many services, and social benefits are desired by the customer. Gremler and Gwinner (2000) indicate that customer-employee rapport is significantly related to social benefit. A positive relationship between commercial friendships is a key element of social benefit. Thus, we propose that a personal interaction between a customer and a service employee fosters a social relationship. Consequently, it is posited that:

H3: IBSE will be positively related to the customer's perceived social benefit.

A serviced encounter consists of a service outcome (i.e., what the customer receives during the exchange) and the process of service delivery (i.e., the way the outcome delivered to the customer) (Jayawardhena et al., 2007). Customer satisfaction with TBSE, by visiting its website, navigating through it, searching for product and service information, is therefore a combination of the customer's satisfaction with the service outcome and with the process of service delivery (Namasivayam and Hinkin, 2003). More specifically, technology developments enable providers to create new services more easily and customers to experience service processes more clearly (Bitner et al., 2000). Meuter et al. (2000) discussed the causes of satisfaction/dissatisfaction with self-service technology, finding that the major satisfaction factor is that the process is completed more quickly and easily than with traditional alternatives.

Customers can perceive the high autonomy and special rewards while they use a technological interface to complete the exchange (Bauer et al., 2006). Patricio et al. (2003) posited that in the banking industry a highly competitive marketplace has forced banks to add more services through new technological interfaces in order to increase customer's benefits. Many customers can appreciate special treatment from TBSE such as benefiting from time and cost savings, flexibility, convenience of location, greater control over service delivery, and a higher perceived level of customization. Another stream of research has explored online shopping (Janda et al., 2002). If customers are satisfied with price savings, time saving, and personalization of merchandise selection through TBSE, then we can expect that they will continue to use these technical facilities. We posit that the importance of the higher degree of the technology interaction is significant in customers' evaluating special treatment benefit. Hence:

H4: TBSE will be positively related to the customer's perceived special treatment benefit.

New technological solutions make it possible to compile, store, disseminate, and retrieve data in ways that make it safer and more easily available to larger numbers of customers than ever before (Walker et al. 2002). When

providers can deliver safe and low-risk information to their customers, the confidence benefits occur in a dyadic relationship (Kang and Kim, 2006; Mcknight et al., 2002). Customers also appreciate TBSE when it is more effective than being served by a service employee, enabling customers to get detailed information and complete transactions more reliably than they could through direct contact (Zhu et al., 2002).

Receptivity to technological tool was theorized to have a positive relationship with confidence benefit, since TBSE is mainly concerned with the establishment of e-trust (Hsu and Wang, 2008). A customer with higher receptivity to TBSE is more likely to show greater confidence with the website. We argue that technological tools in an exchange will reduce anxiety and increase confidence in the service process. This assertion is partially based on the notion that greater levels of TBSE in the interaction will enable contact customers to obtain easily retrievable and reliable information (Jarvenpaa et al., 2000). Appropriate technology may improve working conditions, enhance the motivation of the employees to provide good service, and increase the success rate of the service process, thereby leading to greater confidence in the provider. Logically speaking, when customers are satisfied with their TBSE, they are more likely to be committed to the service providers (Kim and Prabhakar, 2004; Kim et al., 2005). In other words, if a customer is satisfied with the TBSE, they are more likely to trust the provider, suggesting that TBSE leads to confidence benefits. Based on the above argument, the following hypothesis related to confidence benefits is proposed:

H5: TBSE will be positively related to the customer's perceived confidence benefit.

Though a technological interaction typically involves no direct interaction with other people, this does not mean that a friendship cannot be nurtured (Gefen et al., 2003). For example, many websites add a "social touch" to the website, personalizing website communications (Gefen and Straub, 2004). Undoubtedly, TBSE could build social benefits through the perception that the TBSE has a sense of sociable and sensitive human contact (Hampton-Sosa and Koufaries, 2005). From a customer perspective, such attributes are clearly desirable. Yoon (2002) believed that the personal variables such as receptivity to technology, familiarity with Internet, prior satisfaction with website experience might precede the formation of online confidence benefit. These personal variables were derived from the promise that past experience with TBSE provides importance clues for judging the desirability of the future purchase.

Balance theory (Heider, 1958) posits that people tend to develop social relationships toward those with whom they have some prior association. When customers have had more experience with technological facilities, they experience more belongingness and affinity. This leads customers to be more willing to accept the technological interaction (Menor and Roth, 2007). Therefore, customer technological interactions can be argued to be positively related to social benefits. Finally, customers satisfied with the overall TBSE are likely to feel they have a vested interest in staying with that technological service since the costs to go elsewhere may be too high. If a customer has a positive experience on TBSE, it is likely that they will want to stay with the same technology service rather than spend the time and effort to find another, while risking that the new service will be poor. This therefore, implies a positive impact of TBSE on social benefit. Hence,

H6: TBSE will be positively related to the customer's perceived social benefit.

### **3. Methodology**

#### *3.1 Selection of Services and Descriptive Statistics*

An externally valid, fuller understanding of service encounters requires that the validity of conceptual models developed in one setting be examined in other settings as well. Two service industries (hotel and banking) were selected to test the critical dimensions that might influence the relationship benefits. A review of the major classification scheme (Lovelock, 1996) formed the basis for selecting these two services. The industries differ in many dimensions. For example, interpersonal features of encounter might be expected to be more important in the hotel context since it is characterized by a higher degree of personal contact. Like hotels, the banking industry also has a mix of interpersonal and technological encounter (Bitner, 2001; Curran et al., 2003). Technological features might be more important in relationships between the banking industry and customers who prefer anonymous self-service. In both cases, customers know very easily if they are satisfied by the service provider, interpersonally or technologically. It is considered that these two services were sufficiently different between IBSE and TBSE to allow for generalizing the results beyond a single service setting.

#### *3.2 Data Collection and Measures*

The data were collected from real customers of hotels (n=225) and banks (n=225), for a total of 450 questionnaires. After the elimination of 26 questionnaires (hotel=12; banking=14), which had an excessive amount of mistake data (above 3% of data points), the final sample consisted of 424 respondents. The participants of this study varied

adequately in terms of demographic variables. Most of the respondents were predominately 20 to 40 years of age (hotel: 72.1%; bank: 64.6%), with 43.2% of respondents male and 56.8% female. A questionnaire was developed on the basis of literature and qualitative interviews. The study commenced with a qualitative research phase. During this phase, 30 persons out of all who were contacted were asked to participate in in-depth interviews. The purpose of the interviews was to understand the underlying issues of provider/adviser-client encounters. The literature review, discussed in the background section, provided the basis for the items used to measure the constructs. Five-point Likert scales ranging from 1=strongly disagree to 5=strongly agree were used to measure the study constructs. The IBSE was measured by the modification of the courtesy, communication, and understanding of Parasuraman et al. (1985). Respondents were asked to rate the service provider's degree of involvement and interaction in the service process. For example, to measure the provider's communication, respondents were asked to indicate their attitude concerning the personalized attention from the providers. Responses to the four items were summed to derive the overall composite IBSE score for the each subject.

TBSE was operationalized by a 4-items measurement, which was recommended by Bitner et al. (2000) and Meuter et al. (2000). For instance, one measure was obtained by the following question "In service process, my needs would be fulfilled by the technological equipment such as Internet and ATM". To operationalize the relationship benefit, we used 11 items that sought to evaluate various relationship benefits, which was adapted from scales developed and validated by Gwinner et al. (1998), Hennig-Thurau et al. (2002), and Patterson and Smith (2001). Special treatment benefit and confidence benefit both included four items, respectively. The remaining three questions were related to social benefit.

### 3.3 Measurement Model Evaluation

We proposed a set of multiple item reflective scales to measure each construct. Face validity appears evident, and the conceptual definition match well with the item wordings. Additionally, a simple pretest was performed in which our research team matched items with the construct names. No one had difficulty matching items to constructs, providing further confidence the scales contain face validity. Furthermore, measure validation began with preliminary exploratory factor analysis and reliability analysis to purify the scales and ensure consistency of the items. In the exploratory analysis, evidence for the unidimensionality of each construct was based on the principal components analysis with varimax rotation. This revealed that the appropriate items loaded at least 0.7 on their respective hypothesized component, with a loading no larger than 0.5 on other components. In the confirmatory factor analysis (CFA), the reliability of scales was assessed using the composite reliability, and all exceeded 0.75. Table 1 contains the results of exploratory factor analysis and reliability analysis for IBSE, TBSE, and relationship benefits.

We tested convergent and discriminant validity of the scales with confirmatory factor analysis (CFA). We first assessed convergent validity by two reliability indexes for each construct based on the estimated measurement model. All t-values of the estimated factor loadings of the five theoretical constructs are significant ( $p < 0.01$ ). All theoretical scales are above the recommended level of composite reliabilities (0.7) and extracted variance (0.5) (Fornell and Larcker, 1981). Convergent is satisfactory. Accordingly to the criteria recommended by Fornell and Larcker (1981), a CFA with the five dimensions as latent constructs confirms discriminant validity between the dimensions. In this case, goodness-of-fit statistics are 333.82, degree of freedom (df) = 142, average goodness-of-fit (AGFI) = 0.869, root mean square error of approximation (RMSEA) = 0.064. The nomological validity of constructs involved in the model can be observed in the correlations between constructs. More specifically, the directions of all relationships hypothesized in the model were supported. Strong evidence of nomological validity was demonstrated.

Insert Table 1 Here

## 4. Results

Means and standard deviations were computed for all variables in the model TBSE has a mean score of 3.18, which is slightly above the mid-point of 2.5. In contrast, IBSE has a mean score of 3.68 showing that customers reported a higher level of information to IBSE than to TBSE. Among the three constructs of relationship benefits, customers rate the confidence benefit as the most important (3.83) and give less weight to the other two constructs (2.23 for special treatment benefit and 3.2 for social benefit).

Insert Table 2 Here

To test the hypotheses, we used AMOS 6.0 to obtain maximum likelihood estimates of the standardized path coefficients. It can be concluded that the fit of this model is good:  $\chi^2 = 432.07$ ,  $df = 145$ , comparative fit index (CFI) = 0.92, AGFI = 0.839, RMSEA = 0.078. All goodness of fit measures well exceed the recommended cut-off values, Furthermore, the values of the  $\chi^2 / df$  is 2.979, which can be considered adequate.



With regard to the special treatment benefit, Hypotheses 1 and 4 state that IBSE ( $\beta=0.275$ ,  $t=4.191$ ,  $p<0.01$ ) and TBSE ( $\beta=0.389$ ,  $t=5.714$ ,  $p<0.01$ ) are positively related to customers' special treatment benefits. These two hypotheses are strongly supported by the data, indicating that IBSE and TBSE contribute to the way in which customers feel about the special treatment with their providers. Significant positive relationships were found between IBSE and confidence benefits ( $\beta=0.497$ ,  $t=5.493$ ,  $p<0.01$ ). Hence, hypothesis 2 was supported, but TBSE has non-significant positive effect on confidence benefits ( $\beta=0.078$ ,  $t=1.457$ ,  $p>0.1$ ). Thus, Hypothesis 5 was not supported. With greater IBSE in a service process, higher the confidence relationships will be nurtured by customer and provider. As expected, IBSE also has a positive effect on social benefit ( $\beta=0.793$ ,  $t=6.553$ ,  $p<0.01$ ), hence, Hypothesis 3 is supported. Thus the customer and the provider find that they can establish and maintain a friendly atmosphere in this interpersonal communication. The intent of this interaction is to build shared values, and better understand what the two parties can do together.

We also find a non-significant positive relationship between TBSE and social benefits ( $\beta=0.107$ ,  $t=1.759$ ,  $p>0.05$ ), Hypothesis 6 was not supported. Thus, when more technical equipment is used in service process, it may not be lead to more feeling of friendship and closeness between the relationship of customer and service provider. This finding deserves more attentions and discussions in following section.

## 5. Discussion

The contribution of this study is that it elucidates the interaction process between the service encounters and relationship benefits, and thus provides managerial implications of how providers can better create relationship benefit with customers.

### 5.1 Comparing the Impact of IBSE and TBSE on Special Treatment Benefit

With respect to the specific treatment benefit, our results provide support for a positive relationship between IBSE and specific treatment benefit, and TBSE and specific treatment benefit. This finding suggests that the effect of TBSE on special treatment benefit is greater than the effect of IBSE. But the results do not completely show that the provider needs to focus on the TBSE while neglecting IBSE. The potential explanation for this finding might be that if the provider uses the technological standard process (e.g., ATMs), these TBSEs are adequate for routinely contact (Meuter et al., 2000). This finding is congruence with Li and Zhang (2005). Thus, these empirical results are good news for management since they suggest that upgrading technology leads to higher special treatment benefit in general situations and better efficiency in the service process (Bitner et al., 2000).

Another likely explanation for this is that individual customers do not appreciate being openly favored above others, which leads customers preferring TBSE to IBSE. If this is true, the important implication for providers is they should carefully treat customers in order to avoid bringing them into an embarrassing position through interpersonal interaction.

### 5.2 Comparing the Impact of IBSE and TBSE on Confidence Benefit

With respect to confidence benefit, we find that IBSE has a positive impact on this relationship benefit. From a managerial viewpoint, the confidence benefits of customers can only be achieved if customers and employees trust each other. The interdependence of customers and employees can make customers are confident that the provider will continue to provide high-touch service. This interpersonal interaction must be in an IBSE since the IBSE always has an interpersonal emotional component. Providers who maintain good communication with their customers always attempt to reach beyond the economic aspect of their service to create feelings of trust and closeness.

The empirical findings also indicate the possible effect of TBSE on confidence benefit. According to the electronic commerce literature, technology can play an important role in nurturing dyadic trustworthiness and closeness (Kim and Prabhakar, 2004; Mcknight et al., 2002), but our empirical findings fail to confirm this expectation. Trust is known to be crucial in relationship marketing (Morgan and Hunt, 1994), and a way to reduce the perceived risk and uncertainty when dealing with technology. In interpersonal interactions, the physical presence of a service provider (e.g., customer-contact staff) inspires customer trust. Transacting with technological contact, however, involves a certain degree of risk and uncertainty because the behaviors of a service provider are less guaranteed in technology interactions than in personal contact (Hwang and Kim, 2007).

Another potential explanation is that the increasing growth of new technologies, the deliveries of services, the ability and willingness of customers to use these new technologies are considered as a technology anxiety, which is actually a common occurrence (Meuter et al., 2003). Technology anxiety leads customers to have reduced faith in the provider than with interpersonal interaction (Thatcher and Perrewe, 2002). Thus, the best strategy for managers is to make their customers feel more secure by reducing the use of technology where the customers are located. In other words, to foster close long-term relationships, managers need to understand their customers' state of mind about new

technology.

This finding also supports the following important managerial implications. If the customers have only discrete encounters that occur over a short time period, the case of technology should dominate. In contrast, if the customer-provider relationship is a more continuous encounter, more interpersonal interaction should be involved to meet the need for personal affection. Because the technology interface is not appropriate for the non-routine and complex continuous contact, IBSE is necessary to cope with constantly changing customer needs.

### *5.3 Comparing the Impact of IBSE and TBSE on Social Benefit*

We find that the social benefit is relatively strongly determined by IBSE. This result demonstrates the impact of personal involvement on the customers' relationship maintained with a provider. Several studies have also stressed that findings of studies on interpersonal contacts can be transferred to social relationships (Shim and Eastlick, 1998). In other words, customers' inclination to engage in interpersonal interactions would be stronger when these interactions help to satisfy the need for social recognition.

Interestingly, we find a significant negative relationship between TBSE and social benefits. This finding is contrary to the literature, it requires special attention in service marketing research. One plausible explanation for this diversity connection is that high level of interaction properties inherent in social benefits may leave TBSE unable to deliver the value of service encounter. Because new techniques are added to the service process, the relationship of the customer and the provider is expanded and changed. As the relationship grows in scope, more functions are in immediate contact with customers such as bank tellers, service technicians, and contact center systems. These TBSEs maybe decrease the feeling of friendship and closeness of the buyer-seller relationship.

Our study is also valuable for management, since it differentiates IBSE and TBSE to develop a better understanding of why social benefit will be satisfied. In order to identify customers who have a preference for interpersonal interaction, the provider should carefully apply technical resources and avoid excessive use of technology. Furthermore, service provider pays more attention to the technology interaction and higher frequencies using the TBSE with customers, there is evidence that customers sometimes perceive the TBSE in a negative light. This finding is congruence with the past research (Curran et al., 2003). When customers are not comfortable with the TBSE, they may find it intimidating and may foresee service recovery trouble because they are not able to communicate with a staff member for help, ultimately resulting in the unexpected effect and an obvious risk of losing customers.

## **6. Conclusions**

The primary importance of this study is its support for interpersonal-based and technology-based service encounters in the interaction between customers and providers. This in turn depends on the attitudes of employees and how they interact with customers. TBSE focuses more on interactions with various technical service provisions. As a result, the relative importance of relationship benefit may vary between the two types of encounters. Thus, a comprehensive service encounter concept should be used as a strategic guideline because providers have to adjust the operations or administrative systems of the organization to satisfy various customers' needs. Providers sometimes also have to use technical offerings as well as get in contact with customers in person. More specifically, providers have already prepared a set of human and technical resources that affect which resources are going to be used. If all these interactions are considered complicated and unfriendly, the perception of relationship benefit will likely be low.

Overall, our study has shown that developing the relationship benefits is a highly integrated process. A good service encounter cannot occur without considering the interpersonal and technical aspects in the service process. In other words, the well planned introduction of an additional service offering or new technical equipment may become a powerful source of competitive advantage.

Some limitations of the present study and direction for future research should be mentioned. One limitation is that we distributed the questionnaires with only a fraction of the surveys in the banking and restaurant settings. Clearly more research is needed to broaden the database for further generalizations. Replications to validate the conceptual model proposed should consider other service sectors (e.g., automobile repair, airline and department store) and service domains (e.g., an experienced and novice customers) (Johnson and Mathews, 1997). Research along this line could lead to a contingency framework by showing the correlation between service encounters and relationship benefits.

In addition, due to the dynamic nature of relationships, interactions between customers and contact employees or technological tools are seldom static and are likely to change over time. This is because the participants in the interactions may react differently, depending on the different phases in the relationship development. Thus, future

research should consider the need for longitudinal research, since longitudinal research designs may be needed to explore how relationship benefits change over time, as customers proceed through various phases of relationship development.

It would be a logical next step to investigate the moderating effects of relationship proneness, technology anxiety, and technology proneness on IBSE. Our understanding of the service delivery process would undoubtedly be enriched with further study of this complicated interactive influence.

## References

- Bauer, H. H., Falk, T., & Hammerschmidt, M. (2006). eTransQual: A Transaction Process-Based Approach for Capturing Service Quality in Online Shopping. *Journal of Business Research*, 59(1), 866-875. <http://dx.doi.org/10.1016/j.jbusres.2006.01.021>
- Beatson, A., Lee, N., & Coote, L. (2007). Self-Service Technology and the Service Encounter, *Service Industries Journal*, 27(1), 70-89. <http://dx.doi.org/10.1080/02642060601038700>
- Beatty, S. E., Mayer, M., Coleman, J. E., Ellis-Reynolds, K., & Lee, J. (1996). Customer-Sales Associate Retail Relationships. *Journal of Retailing*, 72(3), 223-247. [http://dx.doi.org/10.1016/S0022-4359\(96\)90028-7](http://dx.doi.org/10.1016/S0022-4359(96)90028-7)
- Bendapudi, N., & Berry, L. L. (1997). Customers' Motivations for Maintaining Relationships with Service Provider. *Journal of Retailing*, 73(1), 15-37. [http://dx.doi.org/10.1016/S0022-4359\(97\)90013-0](http://dx.doi.org/10.1016/S0022-4359(97)90013-0)
- Bettencourt, L. A., & Gwinner, K. P. (1996). Customization of the Service Experience: The Role of the Frontline Employee. *International Journal of Service Industry Management*, 7(2), 3-13. <http://dx.doi.org/10.1108/09564239610113442>
- Bitner, M. J., Brown, S. W., & Meuter, M. L. (2000). Technology Infusion in Service Encounters. *Journal of the Academy of Marketing Science*, 28(1), 138-149. <http://dx.doi.org/10.1177/0092070300281013>
- Bitner, M. J. (2001). Services and Technology: Opportunities and Paradoxes. *Managing Service Quality*, 11(6), 375-370. <http://dx.doi.org/10.1108/09604520110410584>
- Bruhn, M. (2003). *Relationship Marketing: Management of Customer Relationship*, New York: Prentice Hall.
- Cowley, E., Farrell, C., & Edwardson, M. (2005). The Role of Affective Expectations in Memory for a Service Encounter. *Journal of Business Research*, 58(10), 1419-1425. <http://dx.doi.org/10.1016/j.jbusres.2003.10.011>
- Curran, J. M., Meuter, M. L., & Suprenant, C. F. (2003). Intentions to Use Self-Service Technologies: A Confluence of Multiple Attitudes. *Journal of Service Research*, 5(3), 209-224. <http://dx.doi.org/10.1177/1094670502238916>
- Dolen, W., Ruyter, K., & Lemmink, J. (2004). An Empirical Assessment of the Influence of Customer Emotions and Contact Employee Performance on Encounter and Relationship Satisfaction. *Journal of Business Research*, 57(4), 437-444. [http://dx.doi.org/10.1016/S0148-2963\(02\)00277-1](http://dx.doi.org/10.1016/S0148-2963(02)00277-1)
- Fang, S. R., & Hsu, C. P. (2005). The Impacts of Technology-Based and Interpersonal-Based Service Encounter on Relationship Benefits. *Management Review*, 24(2), 53-76.
- Fornell, C., & Larcker, D. J. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39-50. <http://dx.doi.org/10.2307/3151312>
- Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in Online Shopping: An Integrated Model. *MIS Quarterly*, 27(1), 51-90. <http://dx.doi.org/10.2307/30036519>
- Gefen, D. & Straub, D.W. (2004). Consumer Trust in B2C E-Commerce and the Importance of Social Presence: Experiments in E-Products and E-Services. *Omega*, 32(6), 407-424. <http://dx.doi.org/10.1016/j.omega.2004.01.006>
- Goodwin, C. (1997). Communitarity as a Dimension of Service Relationships. *Journal of Consumer Psychology*, 5(4), 387-415. [http://dx.doi.org/10.1207/s15327663jcp0504\\_04](http://dx.doi.org/10.1207/s15327663jcp0504_04)
- Gremler, D. D., & Gwinner, K. P. (2000). Customer-Employee Rapport in Service Relationships. *Journal of Service Research*, 3(1), 82-104. <http://dx.doi.org/10.1177/109467050031006>
- Grönroos, C. (2007). *Service Management and Marketing: A Customer Relationship Management Approach*. New York: John Wiley and Sons.
- Gwinner, K. P., Gremler, D. D., & Bitner, M. J. (1998). Relational Benefits in Services Industries: The Customer's Perspective. *Journal of the Academy of Marketing Science*, 26(2), 101-114. <http://dx.doi.org/10.1177/0092070398262002>
- Hampton-Sosa, W., & Koufaris, M. (2005). The Effect of Web Site Perceptions on Initial Trust in the Owner

- Company. *International Journal of Electronic Commerce*, 10(1), 55-81.
- Heffernan, T. (2004). Trust Formation in Cross-Cultural Business-to-Business Relationships. *Qualitative Market Research*, 7(2), 114-125. <http://dx.doi.org/10.1108/13522750410530020>
- Heider, F. (1958). *The Psychology of Interpersonal Relations*. New York: John Wiley and Sons.
- Hennig-Thurau, T., Gwinner, P., & Gremler, D. (2002). Understanding Relationship Marketing Outcomes: An Integration of Relational Benefits and Relationship Quality. *Journal of Service Research*, 4(3), 230-247. <http://dx.doi.org/10.1177/1094670502004003006>
- Hogg, G., Laing, A., & Winkelman, D. (2003). The Professional Service Encounter in the Age of the Internet: An Exploratory Study. *Journal of Services Marketing*, 17(4-5), 476-49. <http://dx.doi.org/10.1108/08876040310486276>
- Homans, G. (1950). *The Human Group*. New York: Harcourt.
- Hsu, L. C., & Wang, C. H. (2008). A Study of E-Trust in Online Auction. *Journal of Electronic Commerce Research*, 9(4), 310-321. [Online] Available: <http://www.csulb.edu/web/journals/jecr/issues/20084/index.pdf>.
- Hwang, Y., & Kim, D. J. (2007). Customer Self-Service Systems: The Effects of Perceived Web Quality with Service Contents on Enjoyment, Anxiety, and E-Trust. *Decision Support System*, 43(3), 746-760. <http://dx.doi.org/10.1016/j.dss.2006.12.008>
- Janda, S., Trochia, P., & Gwinner, K. (2002). Consumer Perceptions of Internet Retail Service Quality. *International Journal of Service Industry Management*, 13(5), 412-431. <http://dx.doi.org/10.1108/09564230210447913>
- Jarvenpaa, S., Tractinsky, N., & Vitale, M. (2000). Consumer Trust in an Internet Store. *Information Technology and Management*, 1(1-2), 45-71. <http://dx.doi.org/10.1023/A:1019104520776>
- Jayawardhena, C., Souchon, L. A., Farrell, M. A., & Ganville, K. (2007). Outcomes of Service Encounter Quality in a Business-to-Business Context. *Industrial Marketing Management*, 36(5), 575-588. <http://dx.doi.org/10.1016/j.indmarman.2006.02.012>
- Johnson, C., & Mathews, B. P. (1997). The Influence of Experience on Service Expectations. *International Journal of Service Industry Management*, 8(4), 290-305. <http://dx.doi.org/10.1108/09564239710174381>
- Keillor, B. D., Hult, G. T., & Kandemir, D. (2004). A Study of the Service Encounter in Eight Countries. *Journal of International Marketing*, 12(1), 9-25. <http://dx.doi.org/10.1509/jimk.12.1.9.25649>
- Kang, Y., & Kim, Y. (2006). Do Visitors' Interest Level and Perceived Quality of Web Page Content Matter in Shaping the Attitude Toward a Web Site? *Decision Support System*, 42(2), 1187-1202. <http://dx.doi.org/10.1016/j.dss.2005.10.004>
- Kim, K., & Prabhakar, K. (2004). Initial Trust and the Adoption of B2C E-Commerce: The Case of Internet Banking. *Data Base for Advances in Information System*, 35(2), 55-64. <http://dx.doi.org/10.1145/1007965.1007970>
- Kim, D., Song, Y., Braynov, S., & Rao, H. R. (2005). A Multidimensional Trust Formation Model in B-to-C E-Commerce: A Conceptual Framework and Content Analyses of Academia/Practitioner Perspectives. *Decision Support System*, 40(2), 143-165. <http://dx.doi.org/10.1016/j.dss.2004.01.006>
- Li, N., & Zhang, P. (2005). Customer Online Shopping Behavior In J. Fjermestad & N. Romano (Eds.). *Customer Relationship Management*. New York: M.E. Sharpe, Armonk.
- Lin, W. B. (2007) The Exploration of Customer Satisfaction Model from a Comprehensive Perspective. *Expert Systems with Applications*, 33(1), 110-121. <http://dx.doi.org/10.1016/j.eswa.2006.04.021>
- Lovelock, C. H. (1996). *Service Marketing*. New Jersey: Prentice-Hall.
- Lovelock, C. H., Wirtz, J., & Chew, P. (2009). *Essentials of Services Marketing*. Singapore: Prentice-Hall.
- Massad, N., Heckman, R., & Crowston, K. (2006). Customer Satisfaction with Electronic Service Encounter. *International Journal of Electronic Commerce*, 10(4), 73-104. <http://dx.doi.org/10.2753/JEC1086-4415100403>
- Magnus, S., & Rosengren, S. (2010). The Happy Versus Unhappy Service Worker in the Service Encounter: Assessing the Impact on Customer Satisfaction. *Journal of Retailing and Consumer Services*, 17(2), 161-169. <http://dx.doi.org/10.1016/j.jretconser.2010.01.001>
- Mcknight, D., Choudhury, V., & Kacmar, C. (2002). Developing and Validating Trust Measures for E-Commerce: An Integrative Typology. *Information Systems Research*, 13(3), 334-359. <http://dx.doi.org/10.1287/isre.13.3.334.81>
- Menor, L. J., & Roth, A. V. (2007). New Service Development Competence in Retail Banking: Construct Development and Measurement Validation. *Journal of Operations Management*, 25(4), 825-846.

<http://dx.doi.org/10.1016/j.jom.2006.07.004>

- Meuterm, M. L., Ostrom, A. L., Roundtree, R. I., & Bitner, M. J. (2000). Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters. *Journal of Marketing* 64(3), 50-64. <http://dx.doi.org/10.1509/jmkg.64.3.50.18024>
- Meuter, M. L., Ostrom, A. L., Bitner, M. J., & Roundtree, R. (2003). The Influence of Technology Anxiety on Consumer Use and Experiences with Self-Service Technologies. *Journal of Business Research*, 56(11), 899-906. [http://dx.doi.org/10.1016/S0148-2963\(01\)00276-4](http://dx.doi.org/10.1016/S0148-2963(01)00276-4)
- Meuter, M. L., Bitner, M. J., Ostrom, A. L., & Brown, S. W. (2005). Choosing Among Alternative. Service Delivery Modes: An Investigation of Customer Trial of Self- Service Technologies. *Journal of Marketing*, 69(2), 61-83. <http://dx.doi.org/10.1509/jmkg.69.2.61.60759>
- Morgan, R. M., & Hunt, S. D. (1994). The Commitment-Trust of Relationship Marketing. *Journal of Marketing*, 58(3), 20-38. <http://dx.doi.org/10.2307/1252308>
- Namasivayam, K. & Hinkin, T. R. (2003). The Customer's Role in the Service Encounter: The Effects of Control and Fairness. *Cornell Hotel and Restaurant Administrative Quarterly*, 44(3), 26-34. [http://dx.doi.org/10.1016/S0010-8804\(03\)90267-9](http://dx.doi.org/10.1016/S0010-8804(03)90267-9)
- Noone, M. B., Kimes, E. S., Mattila, S. A., & Wirtz, J. (2009). Perceived Service Encounter Pace and Customer Satisfaction: An Empirical Study of Restaurant Experience. *Journal of Service Management*, 20(4), 380-403. <http://dx.doi.org/10.1108/09564230910978494>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A Conceptual Model of Service Quality and its Implications for Future Research. *Journal of Marketing*, 49(4), 41-50. <http://dx.doi.org/10.2307/1251430>
- Patricio, L., Fish, R., & Cunha, J. (2003). Improving Satisfaction with Bank Service Offerings: Measuring the Contribution of each Delivery Channel. *Managing Service Quality*, 13(6), 471-482. <http://dx.doi.org/10.1108/09604520310506531>
- Patterson, P. G., & Smith, T. (2001). Relationship Benefits in Service Industries: A Replication in a Southeast Asian Context. *Journal of Service Marketing*, 16(6), 425-443. <http://dx.doi.org/10.1108/EUM000000006098>
- Price, L. L., & Arnould, E. J. (1999). Commercial Friendships: Service Provider-Client Relationships in Context. *Journal of Marketing*, 63(4), 38-56. <http://dx.doi.org/10.2307/1251973>
- Raajpoot, N. (2004). Reconceptualizing Service Encounter Quality in a Nonwestern Context. *Journal of Service Research*, 7(2), 181-201. <http://dx.doi.org/10.1177/1094670504268450>
- Reynolds, K. E., & Beatty, S. E. (1999). Customer Benefits and Company Consequences of Customer-Salesperson Relationship in Retailing. *Journal of Retailing*, 75(1), 11-32. [http://dx.doi.org/10.1016/S0022-4359\(99\)80002-5](http://dx.doi.org/10.1016/S0022-4359(99)80002-5)
- Riley, M. (2007). Role Interpretation during Service Encounters: A Critical Review of Modern Approaches to Service Quality Management. *Hospitality Management*, 26(2), 409-420. <http://dx.doi.org/10.1016/j.ijhm.2006.03.005>
- Shim, S., & Eastlick, M. A. (1998). The Hierarchical Influence of Personal Values on Mall Shopping Attitude and Behavior. *Journal of Retailing*, 74(1), 139-160. [http://dx.doi.org/10.1016/S0022-4359\(99\)80091-8](http://dx.doi.org/10.1016/S0022-4359(99)80091-8)
- Singh, R., & Tor, X. L. (2008). The Relative Effects of Competence and Likableness on Interpersonal Attraction. *Journal of Social Psychology*, 148(2), 253-255. <http://dx.doi.org/10.3200/SOCP.148.2.253-256>
- Simon, F., & Usunier, J. C. (2007). Cognitive, Demographic, and Situational Determinants of Service Customer Preference for Personnel-in-Contact over Self-Service Technology. *International Journal of Research in Marketing*, 24(2), 163-173. <http://dx.doi.org/10.1016/j.ijresmar.2006.11.004>
- Sujan, H., Sujan, M., & Bettman, J. R. (1998). Knowledge Structure Differences between More Effective and Less Effective Salespeople. *Journal of Marketing Research*, 25, 81-86. <http://dx.doi.org/10.2307/3172927>
- Suprenant, C. F., & Solomon, M. R. (1987). Predictability and Personalization in the Service Encounter. *Journal of Marketing*, 51(2), 86-96. <http://dx.doi.org/10.2307/1251131>
- Sweeney, J. C., & Webb, D. (2002). Relationship Benefits: An Exploration of Buyer-Supplier Dyads. *Journal of Relationship Marketing*, 1(2), 77-91. [http://dx.doi.org/10.1300/J366v01n02\\_05](http://dx.doi.org/10.1300/J366v01n02_05)
- Thatcher, J. B., & Perrewe, P. L. (2000). An Empirical Examination of Individual Trusts as Antecedents to Computer Anxiety and Computer Self-Efficacy. *MIS Quarterly*, 26(4), 381-396. <http://dx.doi.org/10.2307/4132314>

- Walker, R. H., Margaret, C. L., Robert, H., & Heather, F. (2002). Technology-Enabled Service Delivery: An Investigation of Reasons Affecting Customer Adoption and Rejection. *International Journal of Service Industry Management*, 13(1), 91-106. <http://dx.doi.org/10.1108/09564230210421173>
- Wang, C. H., Hsu, L. C., & Fang, S. R. (2009). Constructing a Relationship-Based Brand Equity Model. *Service Business*, 3(3), 275-292. <http://dx.doi.org/10.1007/s11628-008-0062-2>
- Yoon, S. J. (2002). The Antecedents and Consequences of Trust in Online Purchase Decisions. *Journal of Interactive Marketing*, 16(2), 47-63. <http://dx.doi.org/10.1002/dir.10008>
- Zhu, F. X., Wymer, W., & Chen, I. (2002). IT-Based Services and Service Quality in Consumer Banking. *International Journal of Service Industry Management*, 13(1), 69-90. <http://dx.doi.org/10.1108/09564230210421164>

Table 1. The reliability and construct validity of the constructs

Constructs	Variables	Eigenvalue	Extracted variance	Cronbach's alpha
IBSE	The level of interpersonal contact	2.314	0.57851	0.7482
TBSE	The level of technology contact	2.667	0.66665	0.8283
Relationship benefits	Special treatment benefit	2.013	0.77818	0.7586
	Confidence benefit	3.259	0.5863	0.9261
	Social benefit	2.492	0.57509	0.8933

Table 2. Descriptive statistics and correlation matrix for the theoretical constructs

	Min	Max	Mean	S.D.	1	2	3	4	5
1. IBSE (4 items)	1.39	4.85	3.68	0.47	1				
2. TBSE (4 items)	2.11	4.34	3.18	0.39	0.538	1			
3. Special treatment benefit (4 items)	1.08	4.28	2.23	0.53	0.369	0.393	1		
4. Confidence benefit (4 items)	1.12	4.39	3.83	0.26	0.424	0.598	0.488	1	
5. Social benefit (3 items)	1.25	5.00	3.29	0.67	0.721	0.655	0.583	0.516	1

\*The first four columns are descriptive statistics of each construct.

\*All others are correlation coefficients in which are significant at the 0.01 level (2-tailed).

Table 3. Standardized parameter estimates and fit indices

Relationship	Hypotheses	Estimate (t-values)
IBSE → special treatment benefit	H1(✓)	0.275 (4.191)
IBSE → confidence benefit	H2(✓)	0.497 (5.493)
IBSE → social benefit	H3(✓)	0.793 (6.553)
TBSE → special treatment benefit	H4(✓)	0.389 (5.714)
TBSE → confidence benefit	H5(×)	0.078 (1.457)
TBSE → social benefit	H6(×)	0.107(1.759)

Squared Multiple Correlation ( $R^2$ )  
 Relationship quality = 0.237  
 Service brand equity = 0.501

$\chi^2 = 432.07$

df = 145  
 CFI = 0.92  
 AGFI = 0.839  
 RMSEA = 0.078

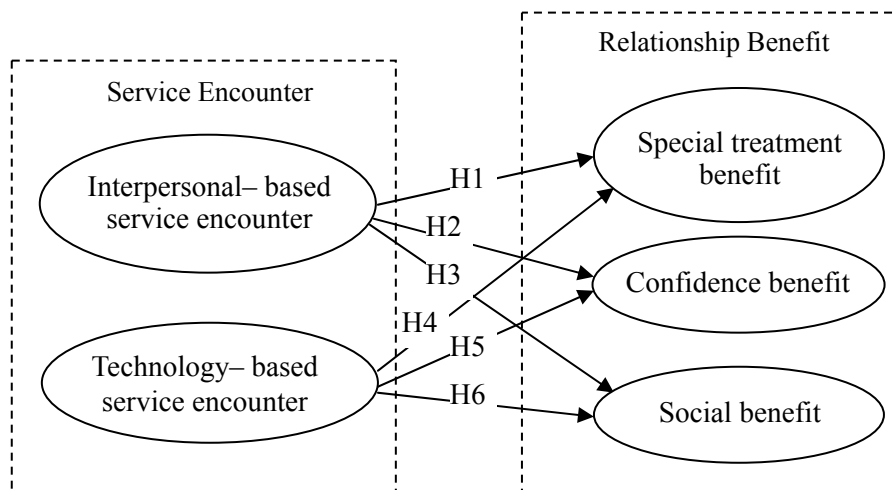


Figure 1. The conceptual model

# Human Resource Development Climate as a Predictor of Citizenship Behaviour and Voluntary Turnover Intentions in the Banking Sector

Akinyemi Benjamin

Department of Human Resource Management

School of Banking and Finance, Kigali, Rwanda

Tel: 250(0)-783-346-8279 E-mail: akinyemi.ben@gmail.com

Received: September 14, 2011

Accepted: December 5, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p110

URL: <http://dx.doi.org/10.5539/ibr.v5n1p110>

## Abstract

This study aims to examine the relationships among human resource development climate (HRDC), organisational citizenship behaviour (OCB) and voluntary turnover intentions (VTI) in the banking sector. Questionnaires were distributed to working adults in Nigerian commercial banks to gauge the employees' individual perception, and thus data obtained was treated as an individual data source. About 600 questionnaires were distributed and a total of 303 were received representing a response rate of 50.5%. Of these, 233 were usable for data analysis as others were incomplete. The results indicate that the HRDC has a significant relationship with OCB and VTI. However, OCB shows no significant relationship with VTI. The study findings and their implications for organisations in general and Nigerian banks in particular are discussed.

**Keywords:** Human Resource Development Climate, Voluntary turnover intention, Organisational citizenship behavior, Bank sector

## 1. Introduction

Hammonds (2005) emphasised the need for corporations to foster a productive work environment arguing that this should be considered as one of their most important tasks. Today's business landscape is changing rapidly due to factors such as: globalization, responsiveness to customers, increasing revenue and decreasing costs, building organizational capability, change, and transformation, implementing technology, attracting and developing Human Capital, and ensuring fundamental and long-lasting change (Ulrich, 1997). The current volatile business environment and intense competition call for strategic and pragmatic approach towards employee development, engagement and effective utilisation. Contemporary organisations, especially the service industries, need to find better approach towards earning the commitment, motivation and loyalty of internal customers – the employees.

Organisational climate has been identified as having impact on employee attitudes and behaviours in the workplace. It is generally defined as the perceived structures, values, systems, and qualities of a particular organisation (Jones and James, 1979) or an individual's perception of organisational characteristics (Tracey *et al.*, 1995). According to Mullins (2005, p.889), it is the “prevailing atmosphere surrounding the organisation, to the level of morale, and to the strength of feelings or belonging, care and goodwill among members.” Mullins further stated that this prevailing climate can influence organisational members' attitudes which affect their work performance and inter-personal relationships. Organisational climate is largely perceptual in nature, being an employee's feelings and beliefs about the organisation. Developmental climate as a sub-set of organisational climate also influences the perception, attitude and behaviour of employees. It is an antecedent of citizenship behaviour and intention to stay with or leave organisations (Podsakoff *et al.* 2000).

As the business environment becomes more turbulent, “it becomes more pertinent to deliberately, consistently, strategically and innovatively develop, optimize and utilize their major value adding resource, i.e. human resource” (Akinyemi, 2011). This paper, therefore, examines the role of a positive HRDC in engaging and retaining valuable human resource in Nigeria's banking sector. It is divided into five sections, viz: introduction; background; methodology; discussions, summary and conclusions and; study limitations and future research directions.

## 2. Background

### 2.1 Human Resource Development

Human Resource Development (HRD) is not just about employee training and development. It consists of all



activities relating to training, career and organisation development. It is the conscious and deliberate organisational and/or individual undertakings aimed at enhancing the skills, knowledge, ability and other attributes of an employee for effectiveness in current job demands and anticipated future challenges. It is making a continuous, long-term investment in ensuring a high-quality workforce capable of accomplishing the organisation's mission now and in the future. Harrison and Kessels (2004, p.4) define HRD as an organizational process comprising "the skillful planning and facilitation of a variety of formal and informal learning and knowledge processes and experiences, primarily but not exclusively in the workplace, in order that organisational progress and individual potential can be enhanced through the competence, adaptability, collaboration and knowledge-creating activity of all who work for the organisation." Swanson (1995) sees HRD as a process aimed at performance improvement by developing and unleashing human expertise through organisation development and personnel training and development. Rao (1985) elaborately define HRD as "a process by which the employees of an organisation are helped, in a continuous, planned way, to: acquire or sharpen capabilities required to perform various functions associated with their present or expected future roles; develop their general capabilities as individuals and discover and exploit their own inner potential for their own and/or organisational development purposes; develop an organisational culture in which the supervisor-subordinate relationships, teamwork, and collaboration among sub-units are strong and contribute to the professional well being, motivation and pride of employees."

Human Resource Development (HRD) was also defined as "a set of systematic and planned activities designed by an organization to provide its members with the opportunities to learn necessary skills to meet current and future job demands" (Werner and DeSimone, 2006 p.5). Werner and DeSimone described HRD as a function of HRM. But Rao (1995) opined that the scope of HRD is extended, at one side, to developing competencies of human resource by enhancing knowledge, building skill, changing attitude and teaching values, and at other side, creation of conditions through public policy, programs and other interventions to help people to apply these competencies for their own and others' benefits and making things happen. Stressing the ultimate goal of HRD in any country Bacchus (1992) posits that it is 'to improve the quality of life of all it's people and not merely concerned with providing necessary skills to individuals. The concept of HRD deals with many facets of development of individuals including their physical, intellectual, emotional, political, and spiritual aspects. In essence, HRD is tantamount to building competence, commitment and culture (Rao, 1990).

In the era of intense competition, rapidly changing technology, uncertainty, high customer expectations and demand, organisations cannot afford to trivialise the capability development of their employees. As stated by Dag Hammarskjöld, "fundamentally man is the key to all problems, not money. Funds are valuable only when used by trained, experienced, and devoted men and women. Such people, on the other hand, can work miracles even with small resources and draw wealth out of a barren land (UN 1995, p.3). Since HR is the major source of sustainable competitive advantage it should be strategically developed to meet current and future challenges. The effectiveness of organisations in developing their workforce largely depends on the prevailing developmental climate within the organisations.

## *2.2 Organisational Developmental Climate*

Human resource development climate (HRDC) is a component of organisational climate. Organisational climate has been defined in various ways. According to Schneider (1990) it is individual perceptions about salient characteristics of the organisational context. Tagiuri and Litwin (1968, p. 25) define it as "the relatively enduring quality of the total environment that (a) is experienced by the occupants, (b) influences their behavior, and (c) can be described in terms of the values of a particular set of characteristics (or attributes) of the environment." Attributes of organisational climate are said to include: (1) a supportive climate, (2) a climate of risk taking, (3) a climate of cohesiveness, and (4) a climate with the motivation to achieve (Denison, 1996). Organisational climate is the set of characteristics that describe an organisation and that (a) distinguishes one organisation from other organisations; (b) are relatively enduring over time and (c) influence the behavior of the people in the organisation (Forehand and Gilmer, 1964). It includes the attention members pay to characteristics in the organisation such as policy, rewards, and management behaviors as well as meaning attached to these characteristics based on individual characteristics including value systems and needs.

Wexley and Latham (1991) noted that components of organisational climate such as compensation, opportunity for advancement, supervisory style, organisational goals, and concern for employees are related to transfer of training. Assessing the link between eight climate dimensions and post-training behaviors in over 100 units of a fast-food chain, Rouillier and Goldstein (1993) found that workers earned higher performance ratings in setting offering a more positive transfer climate. Using the Rouillier and Goldstein climate questionnaire, Tracey et al. (1995) showed a direct relationship between climate and transfer of learning. Bennett et al. (1999) also found a link between various climate factors and the transfer of service quality training. Other researchers have also found that "organisational

climate predicts positive work attitudes and behaviours. Employees are more satisfied working in a positive work environment and therefore less likely to leave their organisations (Pace, 2002; Aarons and Sawitzky, 2006).

### 2.3 Organisational Citizenship Behaviour

The notion of (OCB) was introduced by Bateman and Organ (1983, p.4) and defined as “individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organisation” (Organ, 1988, p.4).

Although there is an increasing research interest in OCB, a consensus is yet to be reached regarding what the different types of behaviors constitute OCB. However, OCB is reported to have seven common themes. These are: helping behavior, sportsmanship, organisational loyalty, organisational compliance, individual initiative, civic virtue and self-development. OCB, therefore, may contribute to organisational success for the following reasons: enhanced co-worker and managerial productivity, freeing up resources that can be used for more productive purposes, helping to coordinate activities within and across groups, strengthening the organisation's ability to attract and retain the best employees, increasing the stability of the organisations performance and allowing the organisation to adapt more effectively to organisational changes (Podsakoff *et al.*, 2000).

The impact of OCB on organisational output at both group and individual levels have been empirically established. It is positively related to both the quantity and quality of product output (Podsakoff *et al.*, 1997), contributes to team effectiveness (MacKenzie, Podsakoff, and Ahearne, 1996, as cited in Podsakoff and MacKenzie, 1997). OCB has also been found to contribute to overall performance (Podsakoff and MacKenzie, 1994) as well as overall operating efficiency and customer satisfaction (Walz and Niehoff, 1996 as cited in Podsakoff and MacKenzie, 1997).

In a literature review of OCB, Podsakoff *et al.* (2000) identified 30 different forms of citizenship behaviour. These were classified into seven common themes to take care of conceptual overlaps between dimensions. The seven dimensions of citizenship behaviour as categorised by Podsakoff *et al.* (2000, pp. 516 – 526) are:

Helping behaviour involves voluntarily helping others with, or preventing the occurrence of, work-related problems (p.156).

Sportsmanship defined as “a willingness to tolerate the inevitable inconveniences and impositions of work without complaining” (Organ 1990, p.96).

Organisational loyalty involves promoting the organisation to outsiders, protecting and defending it against external threats, and remaining committed to it even under adverse conditions (p.517).

Organisational compliance internalisation and acceptance of the rules, regulations and procedures which results in a scrupulous adherence to them, even when no one observes or monitors compliance (p.517).

Individual initiative is voluntary acts of creativity and innovation designed to improve one's task or the organization's performance persisting with extra enthusiasm and effort to accomplish one's job (p.524).

Civic virtue is willingness to participate actively in governance of organization (p.525).

Self development includes voluntary behaviours employees engage in to improve their knowledge, skills and abilities (p. 525).

This shows the multi-dimensional nature of OCB. It is, however, necessary to note that for this study OCB is defined as a collection of volunteer and non-obligatory behavior that is not defined in the official employee job descriptions but contribute to effective improvement of duties and roles in an organization (Cohen, *et al.*, 2004).

A longitudinal study of a restaurant chain shows that OCB expressed in the first year is related to profitability in the second year (Koys, 2001). Another study of restaurants produced similar findings, showing that OCB was related to operating efficiency, revenue, fewer customer complaints, and quality of performance (Walz and Niehoff, 1996). Podsakoff, Ahearne, and MacKenzie (1997) found a connection to success outcomes at a paper mill where the quality of the paper accepted and the quantity produced was associated with expression of OCB. Actually, some dimensions of OCB may vary but overall OCB demonstrates a strong relationship to organisational effectiveness as earlier mentioned.

The views of Bergeron (2007) is quite relevant as far as the current situation in Nigerian banks is concerned. According to him, organisations need to recognize the non-availability of enough time for employees to devote to both task performance and OCB. Organisations are increasingly requiring their employees to work longer and longer hours (Bond, Galinsky, & Swanberg, 1997; Reich, 2001). In the service industry, such as banks, where customer loyalty is of utmost importance OCB is highly required for service quality delivery.

### 2.4 Voluntary Turnover Intention

Most researches are concerned with VTI in organisations and it is commonly held that VTI is dysfunctional,

adversely influencing organisational effectiveness, i.e. the degree to which organisations achieve their goals (Hom and Griffeth, 1995). VTI is “a conscious and deliberate wilfulness to leave the organisation” (Tett and Meyer 1993, p. 262). It is thinking about quitting one’s current organisation and it is the best and most immediate predictor of turnover. Various reasons have been advanced in respect of employees’ VTI. For instance, Lee and Bruvold (2003) concluded that investment in employee development correlated with employee intention to leave the organisation. However, intention to leave was fully mediated by job satisfaction and affective commitment. The lack of opportunities for career development has also been identified as the most important factor affecting employee retention. It is the view of some researchers that any company that would strengthen its bond with its employees has to invest in their development (Hall and Moss, 1998; Hsu, *et al.*, 2000; Steel, *et al.*, 2002). While creation of opportunities for promotion from within the company is essential, there must be opportunities for training and skill development that enable employees to enhance their employability on the internal and/or external labor market (Butler and Waldrop, 2001). Other factors such as the provision of mentoring or coaching to employees, organizing career management workshops and setting up of competency management programs all relate to career development (Roehling, *et al.*, 2000).

In a study by Allen, Shore and Griffeth (2003) it was found that the lack of training and promotional opportunities resulted in high performers’ turnover. Also, Steel *et al* (2002) reported empirical data showing that lack of training and promotional opportunities were the most frequently cited reason for high-performers to leave the company. Benson *et al.*, (2004) studied the voluntary turnover of a large sample of manufacturing employees who were participating in tuition reimbursement programs. It appeared that while employees were still in school the voluntary turnover decreased. After graduation the turnover increased. If the degree was earned and the employee was subsequently promoted the turnover was significantly reduced. The researchers concluded that enhancing employees’ general skills increased their marketability and therefore the perceived alternatives, which in turn, increases turnover. If promotion followed graduation, then the turnover decreased, and the negative impact on retention was stronger than when employees were promoted without attaining a degree. This would lead to satisfaction and commitment to the organisation (in line with social exchange theory).

Lto and Brotherridge (2005) examined the impact of supervisor support for development, career adaptability, affective commitment and turnover intentions and found the conflicting relations between enhancing employees’ employability and attitudes with regards to turnover. Supervisor support for development was negatively related to intention to leave. From the above, it is clear that a positive HRD climate in organisations is a prerequisite for employee retention especially when development is followed by recognition and reward.

### 2.5 The Nigeria Banking Sector

The role of the banking sector in enhancing economic growth through financial intermediation is significant (Sanusi, 2011). Prior to 2004, the Nigerian banking sector was laced with so many anomalies induced largely by weak capital base. Continued reforms were, therefore, implemented to strengthen the sector by making it the main driver of growth (Ademosu, 2008). In 2005, bank recapitalisation exercise trimmed the number of from 89 to 25 through merger and acquisition to meet up with the 25 billion Naira capital requirement. In response to fresh challenges resulting from the recapitalised exercise, further comprehensive banking sector reforms were introduced in order to address poor corporate governance, and unethical practices in the industry. The reforms led to a further reduction in the number of banks as Central Bank of Nigeria (CBN) raised the Monetary Policy Rate (MPR) to 8.75 per cent to further tighten money supply in anticipation of future rise in inflation in the economy. These series of reforms have repositioned the banks such that some banks now compete effectively regionally and globally. For instance, nine banks have now made the list of top 1,000 World Banks ranking and top 25 banks in Africa (Udeme, 2011).

The implication of these reforms is that the right human capital – knowledgeable, exposed and cosmopolitan – is now critical” (Soludo, 2010). This has led to intense competition for the already stretched talent pool. So also is the dire need for and retention of highly skilled and knowledgeable workers through the implementation of effective HR strategies. These make the need for the study which examines HRDC’s role in fostering employees’ citizenship behaviour and their intention to stay with their organisations very significant. The study also provides empirical evidence in an area where empirical research is lacking especially relating to the Nigerian banking sector.

### 3. Methodology

An increasingly volatile business environment and growing expectations and aspirations of both internal and external customers require that organisations intensify their efforts to enhance employee performance through conscious, deliberate and strategic capability development. The primary purpose of the present field study was to explore the impact of organisational developmental climate on OCB and VTI. The study focussed on the perception of employees along three dimensions:

- Extent of relationship between HRDC and OCB as perceived by employees;
- Level of relationship between HRDC and VTI according to employees' perception;
- The influence of OCB on employees' VTI.

The study was carried out within the commercial banks in South Western Nigeria. The questionnaires were self administered to the executive and non-executive members of staff in the selected banks. The collected data was analysed using the Statistical Package for Social Sciences (SPSS) to calculate the means, standard deviations, t-tests, r square and critical t at 0.5 level of significance. Respondents rated their level of agreement with each item on a five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree.

### 3.1 Instruments

The items within the scale originates from existing research scales on HRDC (Rao and Abraham, 1990), OCB (Podsakoff *et al.*, 1990 and Williams and Anderson, 1991) and VTI (Cammann, Fichman, Jenkins and Klesh 1979; Seashore, Lawler, Mirvis and Camman 1982) and the Lyons' Propensity to Leave scale (Cook, Hepworth, Wall and Warr 1981).

### 3.2 Conceptual Model

Based on the study dimensions (in 3 above), a conceptual model was developed as shown in Figure 1.

Insert Figure 1 Here

### 3.3 Research Hypotheses

Based on the above conceptual model the following hypotheses were formulated to be subjected to statistical test.

H1: There is no statistically significant relationship between HRDC and OCB.

H2: There is no statistically significant relationship between HRDC and VTI.

H3: There is no statistically significant relationship between VTI and OCB.

### 3.4 Hypotheses Testing

To test the hypotheses, the mean score, standard deviation and r squares as well as critical t were calculated. The results of these analyses are presented below.

Hypothesis 1: There is no statistically significant relationship between HRDC and OCB.

(Insert Table 1 here)

From the above table, a significant relationship exists between HRDC and OCB. The r square of 0.36 shows about 36% relationship between OCB and HRDC. Similarly, the calculated t of 49.55 is higher than critical t of 1.98 at 95% confidence interval. This implies that OCB is a function HRDC. The null hypothesis is, therefore, rejected.

Hypothesis 2: There is no statistically significant relationship between HRDC and VTI.

(Insert Table 2 here)

Statistical results from the above table indicate a significant relationship between HRDC and VTI, the r square of 0.31 indicates about 31% relationship between HRDC and VTI. Also, the calculated t of 48.82 is higher than the critical t of 1.98. This shows a significant difference between VTI and HRDC. Thus, voluntary turnover is influenced by HRDC. The null hypothesis is rejected.

Hypothesis 3: There is no statistically significant relationship between OCB and VTI.

(Insert Table 3 here)

The mean score of OCB (10.85) is slightly lower than of VTI (11.19). The r square of 0.14 shows about 14% relationship between OCB and VTI, and significant ( $p < 0.05$ ). The calculated t of 1.45 is less than critical t of 1.96. As a result, there is no significant relationship between OCB and VTI. This implies that OCB does not influence VTI. The null hypothesis is, therefore, accepted.

## 4. Discussion, Summary and Conclusions

The Nigerian banking sector is one of the most vibrant sectors and a major contributor to national economic growth. Reforms opened the banking sector to intense competition and continued search for talented and highly skilled professionals. For any bank to gain the competitive edge in the current unpredictable business environment, it must focus on "building a more responsive, flexible and resilient workforce" (Akinyemi, 2009). The strategic role of HRDC in fostering extra-role behaviour and retention is the major thrust of this study. The study also examined the relationship between OCB and VTI. Results of data analysis show a relationship between HRDC and OCB (Table 1).

A significant relationship also exists between HRDC and VTI (Table 2). However, no relationship exists between OCB and VTI (Table 3). Research evidence shows HR practices are strongly associated with OCB (Moorman, 1993; Deckop and Cirka, 1999; O'Bannon and Pearce, 1999). Results from another study (Biswas, 2010) show that psychological climate is the antecedent of organizational citizenship behaviour. Also found to be significantly related to citizenship behaviours is organisational characteristics such as group cohesiveness and organisational support (Podsakoff et al. 2000:526-533). These are significant parts of a congenial developmental climate. The findings of this study corroborate earlier research findings that significant relationship exists between organizational climate and positive work attitude and behaviours ((Pace, 2002; Aarons and Sawitzky, 2006). For service-oriented industries, such as banks, to enhance employees' citizenship behaviour a congenial developmental climate must exist.

HRDC is also seen to have significant relationship with VTI. This agrees with the results of other studies linking climate with turnover intention (Gormley, 2007; Hong and Kaur, 2008; Ribeiro-Tupinamba and Castro, 2011). Retention of talent is critical to the survival of organisations especially during intense competition. This study is a contribution to previous studies that found significant relationship between climate and turnover intention. In order to retain highly skilled professionals each bank need to foster a conducive developmental climate that enhances innovation, team spirit, top management support, openness and cordiality.

Contrary to some research findings, this study finds no relationship between OCB and VTI. Khalid, et al. (2009) argued that "although other factors should also influence turnover, it is likely that employees with higher levels of OCB would report lower levels of turnover intention so as to preserve linkages to the organization." Based on some other research findings, Chen et al. (1998) concluded that "OCB might have an influence on employees' turnover intention." Ribeiro-Tupinamba and Castro (2011) identify variables that are significantly responsible for the employees' intention of moving to a company of another segment. These include "identification with the position", "technical orientation offered by supervisors", "socio-affective support" and "satisfaction with the organization". Investigating the effects of OCB on turnover intention and absenteeism among star-rated hotel employees in Malaysian, Ali, (2006) found a negative relationship with turnover intention. In a meta-analytic investigation of individual and organisational-level consequences of OCB, Podsakoff et al. (2009) found that OCBs are related to a number of individual-level outcomes, including managerial ratings of employee performance, reward allocation decisions, and a variety of withdrawal-related criteria (e.g., employee turnover intentions, actual turnover, and absenteeism).

#### 4.1 Practical and Managerial Implications of Findings

This study shows that the VTI and OCB of Nigerian bank employees are related to their HRDC. Nigerian banks' management can reduce turnover and foster citizenship behaviour by ensuring that a favourable developmental climate exists within their organisations.

The results of this research have implications for practising managers since they are involved with managing human resources within the organisations. Managers should endeavour to provide a daily favourable working environment where employees are comfortable to develop and utilise their potentials without any form of inhibition. Managers should also regularly measure the prevailing climate within their units/organisations to understand the current nature of organisational developmental climate. This would provide managers with useful information that they could use to initiate series of action to mitigate any problem associated with negative workplace climate.

### 5. Study Limitations and Future Research Directions

This study examined HRDC's influence on OCB and VTI within Nigeria's banking sector. It also investigated the relationship between OCB and VTI within the Nigerian banking sector in the context of reform. The current study did not focus on some major challenges which confront bank employees during the reconsolidation exercise, such as, job losses and employment instability. Downsizing of employees and employment instability leading to organised unions opposition were not addressed in this study. This situation could, probably, have had serious implications for the results of this study. Further research on these emerging critical issues in the banking sector is therefore suggested as future research focus. This study found no significant relationship between OCB and VTI, contrary to earlier research findings. In fact, empirical research investigating the effects of the various dimensions of OCB on VTI and actual turnover in Nigeria are rarely given attention. It is, therefore, recommended that future research should focus more on this area.

### References

- Aarons, G. A., & Sawitzky, A. C. (2006). Organizational Climate Partially Mediates the Effect of Culture on Work Attitudes and Staff Turnover in Mental Health Services. *Adm Policy Ment Health*, 33, 289-301. <http://dx.doi.org/10.1007/s10488-006-0039-1>

- Ademosu, E. A. (2008). Corporate Social Responsibility: The Experience of the Nigerian Banking System. Paper Delivered at the 2008 of the Federation of African Public Relations Associations (FAPRA) held on April 28 to May 2, 2008 at the Golden Tulip Hotel, Kumasi, Ghana.
- Akinyemi, B. O. (2009). Human Capital Management for Sustainable Competitive Advantage in the New Economy. In Teresa Torres-Coronas & Mario Arias-Olivia (Eds). *Encyclopedia of Human Resources Information Systems: Challenges in e-HRM* (441-450).
- Akinyemi, B. O. (2011). Human Resource Development Climate in Rwanda Private Sector Organisations. *International Bulletin of Business Administration*, 12, 66-78.
- Ali, K. H. (2006). Organisational Citizenship Behaviour, Turnover Intention and Absenteeism among hotel employees. *Malaysian Management Review*, 41, 1.
- Allen, D. G., Shore, L. M., & Griffeth, R. W. (2003). The role of perceived organizational support and supportive human resource practices in the turnover process. *Journal of Management*, 29, 99-118. <http://dx.doi.org/10.1177/014920630302900107>
- Bacchus, M. K. (1992). *Human Resource Development: Definition, Importance and Strategies*. London: Commonwealth Secretariat.
- Bateman, T. S., & Organ D. W. (1983). Job satisfaction and the good soldier: The relationship between affect and employee "citizenship". *Academy of Management Journal*, 26, 587-595. <http://dx.doi.org/10.2307/255908>
- Bennett, J. B., Lehman, W. E. K., & Forst, J. K. (1999). Change, transfer climate, and customer orientation: A contextual model and analysis of change-driven training. *Group and Organisation Management*, 24, 188-216. <http://dx.doi.org/10.1177/1059601199242004>
- Benson, G. S., Finegold, D., & Mohrman, S. A. (2004). You paid for the skills, now keep them: tuition reimbursement and voluntary turnover. *Academic of Management Journal* 47, 315-331. <http://dx.doi.org/10.2307/20159584>
- Bergeron, D. M. (2007). The potential paradox of organizational citizenship behavior: Good citizens at what cost? *Academy of Management Review*, 32, 1078-1095. <http://dx.doi.org/10.5465/AMR.2007.26585791>
- Biswas, S. (2010). Commitment as a Mediator between Psychological Climate and Citizenship Behaviour. *Indian Journal of Industrial Relations*, 45, 411-423.
- Bond, J. T., Galinsky, E. & Swanberg, J. E. (1997). *The 1997 National Study of the Changing Workforce*. New York: Families and Work Institute.
- Butler, T., & Waldroop, J. (2001). *Harvard Business Review on finding and keeping the best people*. Boston: Harvard Business School Press.
- Cammann, C., Fichman M., Jenkins, D., & Klesh, J. (1979). The Michigan Organisational Assessment Questionnaire. Unpublished manuscript, University of Michigan, Ann Arbor, Michigan.
- Chen, X. P., Hui, C., & Sego, D. J. (1998). The role of organizational citizenship behavior in turnover: conceptualization and preliminary tests of key hypothesis. *Journal of Applied Psychology*, 83, 922-931. <http://dx.doi.org/10.1037/0021-9010.83.6.922>
- Cohen, A., & Kol, Y. (2004). Professionalism and organizational citizenship behavior an empirical examination among Israeli nurses. *Journal of managerial psychology*, 19, 386-405. <http://dx.doi.org/10.1108/02683940410537945>
- Cook, J. D., Hepworth, S. J., Wall, T. D., & Warr, P. B. (1981). *The experience of work: A Compendium and Review of 249 measures and their Use*. London: Harcourt Brace Jovanovich Publisher.
- Deckop, J. R., Mangel, R. & Circa, C. (1999). Getting More Than You Pay For: Organizational Citizenship and Pay-Performance Plans. *Academy of Management Journal*, 42, 420-428. <http://dx.doi.org/10.2307/257012>
- Denison, D. R. (1996). What is the difference between organizational culture and organizational climate A native's point of view on a decade of paradigm wars? *Academy of Management Review*, 21, 619-654. <http://dx.doi.org/10.5465/AMR.1996.9702100310>
- Forehand, G., & Von Gilmer, B. (1964). Environmental variations in studies of organisational behaviour. *Psychological Bulletin*, 62, 362-381. <http://dx.doi.org/10.1037/h0045960>

- Gormley, D. K. (2007). Climate, Role and Commitment: Factors Influencing Turnover Intention in Nurse Faculty. [Online] Available: [http://stti.confex.com/stti/bc39/techprogram/paper\\_35298.htm](http://stti.confex.com/stti/bc39/techprogram/paper_35298.htm).
- Hall, D. T., & Moss, J. E. (1998). The new protean career contract: Helping organizations and employees adapt. *Organizational Dynamics*, 26, 22-37. [http://dx.doi.org/10.1016/S0090-2616\(98\)90012-2](http://dx.doi.org/10.1016/S0090-2616(98)90012-2)
- Hammonds, K. H. (2005). Why we hate HR. *Fast Company*, 97, 40-47.
- Harrison, R., & Kessels, J. W. M. (2004). *Human Resource Development in a knowledge economy. An organisational view*. Hampshire – New York: Palgrave Macmillan.
- Hom, P. W., & Griffeth, R. W. (1995). Employee turnover. Cincinnati, OH: Southwestern.
- Hsu, M. K., Jiang, J. J., Klein, G., & Tang, Z. (2003). Perceived career incentives and intent to leave. *Information & Management*, 40, 361-369. [http://dx.doi.org/10.1016/S0378-7206\(02\)00018-6](http://dx.doi.org/10.1016/S0378-7206(02)00018-6)
- Jones, A. P., & James, L. R. (1979). Psychological climate: Dimensions and relationships of individuals and aggregated work environments perceptions. *Organisational Behaviour and Human Performance*, 23, 201-250. [http://dx.doi.org/10.1016/0030-5073\(79\)90056-4](http://dx.doi.org/10.1016/0030-5073(79)90056-4)
- Khalid, S. A., Ali, H., Ismail, M., Kassim, K. M., & Rahman, N. A. (2009). Gender as a moderator of the relationship between OCB and turnover intention. *Asian Social Science*, 5, 6.
- Koys, D. J. (2001). The effects of employee satisfaction, organizational citizenship behavior, and turnover on organizational effectiveness; A unit 0 level, longitudinal study. *Personnel Psychology*, 54, 101-104. <http://dx.doi.org/10.1111/j.1744-6570.2001.tb00087.x>.
- Lee, C. H., & Bruvold, N. T. (2003). Creating value for employees: Investment in employee development. *International Journal of Human Resource Management*, 14, 981-1000. <http://dx.doi.org/10.1080/0958519032000106173>
- Lto, J. K., & Brotherridge, C. M. (2005). Does supporting employees' career adaptability lead to commitment, turnover, or both? *Human Resource Management*, 44, 5-19. <http://dx.doi.org/10.1002/hrm.20037>
- Moorman, R. H. (1993). The influence of cognitive and affective based job satisfaction measures on the relationship between satisfaction and organizational citizenship behavior. *Human Relations*, 46, 756-776.
- Mullins, L. J. (2005). *Management and organisational behavior*. (7th ed.) Harlow: Prentice Hall.
- O'Bannon, D. P., & Pearce, C. L. (1999). A quasi-experiment of gainsharing in service organization: Implications of organizational citizenship behavior and pay satisfaction. *Journal of Management Issues*, 11, 363 – 378.
- Organ, D. W. (1988). *Organisational Citizenship behavior: The good soldier syndrome*. Lexington, MA: Lexington Books.
- Organ, D. W. (1990). The subtle significance of job satisfaction. *Clinical Laboratory Management Review*, 4, 94-98.
- Pace, R. W. (2002). *Organisation Dynamism*. West Port, CT: Quorum.
- Podsakoff, N. P., Whiting, S. W., Podsakoff, P. M., & Blume, B. D. (2009). Individual-and organizational-level consequences of organizational citizenship behaviors: A meta-analysis. *Journal of Applied Psychology*, 94, 122-141. <http://dx.doi.org/10.1037/a0013079>
- Podsakoff, P. M., & MacKenzie, S. B. (1994). Organisational citizenship behaviours and sales unit effectiveness. *Journal of Marketing Research*, 31, 351-363. <http://dx.doi.org/10.2307/3152222>
- Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *Leadership Quarterly*, 1, 107-142. [http://dx.doi.org/10.1016/1048-9843\(90\)90009-7](http://dx.doi.org/10.1016/1048-9843(90)90009-7)
- Podsakoff, P. M., Ahearne, M., & MacKenzie, S. B. (1997). Organisational citizenship behavior and the quantity and quality of work group performance. *Journal of Applied Psychology*, 82, 262-270. <http://dx.doi.org/10.1037/0021-9010.82.2.262>
- Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organisational citizenship behaviour: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, 26, 513-563. <http://dx.doi.org/10.1177/014920630002600307>
- Rao, T. V., & Abraham. E. (1990). HRD Climate Questionnaire (in Developing Human Resources: Annual), University Associates, USA.
- Rao, T. V. (1990). *The HRD Missionary*. New Delhi: Oxford and IBH.

- Rao, T. V. (1995). HRD philosophies and Concepts the India perspective. National HRD network.
- Rao, T. V. (1985). *Integrated Human Resource Development Systems*. In L.D Goodstein and J. W Pfeiffer The 1985 Annual Developing Human Resources Sandeigo C A: University Associates.
- Reich, R. B. (2001). *The Future of Success*. Knopf.
- Ribeiro-Tupinamba A. C., & Castro, P. M. (2011). The Impact of Organizational Climate on the Turnover Intention of Call-center Employees. [Online] Available: <http://ijm.cgpublisher.com/product/pub.28/prod.1287>.
- Roehling, M. V., Cavanaugh, M. A., Moynihan, L. M., & Boswell, W. (2000). The nature of employment relationship: A content analysis of the practitioner and academic literatures. *Human Resource Management*, 39, 305-320. [http://dx.doi.org/10.1002/1099-050X\(200024\)39:4<305::AID-HRM3>3.0.CO;2-V](http://dx.doi.org/10.1002/1099-050X(200024)39:4<305::AID-HRM3>3.0.CO;2-V)
- Rouiller, J. Z., & Goldstein, I. L. (1993). The relationship between organisational transfer climate and positive transfer of training. *Human Resource Development Quarterly*, 4, 377-390. <http://dx.doi.org/10.1002/hrdq.3920040408>
- Sanusi L. S. (2011). Banks in Nigeria and National Economic Development: A Critical Review. Keynote Address at the Seminar on “Becoming An Economic Driver While Applying Banking Regulations”, organized by the Canadian High Commission in Joint Collaboration with the Chartered Institute of Bankers of Nigeria (CIBN) and the Royal Bank of Canada (RBC) on March 7, 2011.
- Schneider, B. (1990). *Organizational climate and culture*. San Francisco. CA: Jossey-Bass.
- Seashore, S. E., Lawler, E. E., Mirvis, P., & Cammann, C. (1982). *Observing and Measuring Organisational Change: A Guide to Field Practice*. New York: Willey.
- Swanson, R. A. (1995). Human resource development: performance is the key. *Human Resource Development Quarterly*, 6, 207–13. <http://dx.doi.org/10.1002/hrdq.3920060208>
- Soludo C. (2010). Banking on Nigeria - Banking Reforms Highlight Need for Skills. [Online] Available: <http://www.reconnectafrica.com/careers-articles/sector-skills.html#comp78>. (August 15, 2011)
- Steel, R. P., Griffeth, R. W., & Hom, P. W. (2002). Practical retention policy for the practical manager. *Academy of Management Executive*, 16(2), 149-162. <http://dx.doi.org/10.5465/AME.2002.7173588>
- Tagiuri, R., & Litwin, G. (1968). *Organizational culture: a key to financial performance*. Organizational San Francisco: Jossey-Bass.
- Tett, R., & Meyer, J. (1993). Job Satisfaction, Organisational Commitment, Turnover Intention, and Turnover: Path Analyses Based on Meta-Analytic Findings. *Personnel Psychology*, 46, 259-293. <http://dx.doi.org/10.1111/j.1744-6570.1993.tb00874.x>
- Tracey, J. B., Tannenbaum, S. I., & Kavanagh, M. J. (1995). Applying trained skills on the job: The importance of the work environment. *Journal of Applied Psychology*, 80, 239-252. <http://dx.doi.org/10.1037/0021-9010.80.2.239>
- Ulrich, D. (1997). *Human resource champions*. Boston: Harvard Business School Press.
- United Nations. (1995). Twelfth Meeting of Experts on the United Nations Programme in Public Administration and Finance. [Online] Available: <http://unpan1.un.org/intradoc/groups/public/documents/un/unpan000780.pdf>. (August 5, 2011).
- Werner J. M., & DeSimone, R. L. (2006). *Human resource development*. (4th ed. ) Mason, Ohio: Thomson-Southwestern.
- Wexley, K. N., & Latham, G. P. (1991). *Developing and Training Human Resources in Organizations*. (2nd ed. ) New York: Harper-Collins.
- Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17, 601-617. <http://dx.doi.org/10.1177/014920639101700305>

Table 1. T-Test of HRDC on OCB

	X	SD	Std error	R <sup>2</sup>	Mean dff	T	Critical t	Sig p
HRDC	95.86	27.27	1.78					
OCB	10.82	3.54	0.23	0.36	85.04	49.55	1.98	0.00

Sig p&lt;0.05, N=233



Table 2. T-test of HRDC on VTI

	X	SD	Std error	R <sup>2</sup>	Mean dff	T	Critical t	Sig p
HRDC	95.61	27.20	1.77					
VTI	11.33	2.58	0.17	0.31	84.52	48.82	1.98	0.00

Sig p&lt;0.05, N=233

Table 3. T-test of OCB and VTI

	X	Std error	Mean dff	R <sup>2</sup>	T	Critical t	Df	Sig p
OCB	10.85	3.59						
VTI	11.19	2.62	-0.35	0.14	-1.45	1.96	300	0.15

Sig p&lt;0.05, N=233

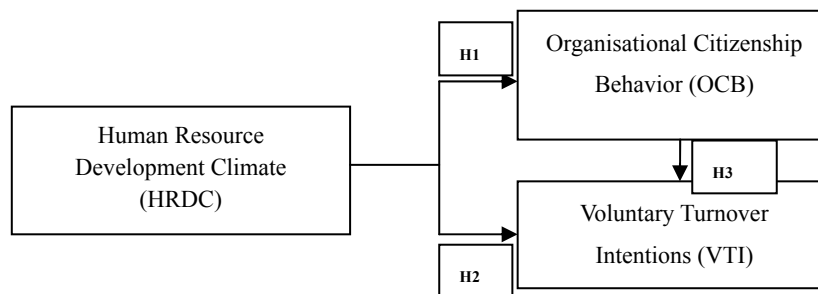


Figure 1. Conceptual Model

# The Dynamic Effect of Globalization on Unemployment Rate in Iran: A Co-integration Analysis

Ali A. Naji Meidani

Faculty of Economic and Administrative Sciences, Ferdowsi University of Mashhad  
Park Square, Ferdowsi University of Mashhad, Iran  
E-mail: naji@um.ac.ir

Maryam Zabihi (Corresponding author)

Faculty of Economic and Administrative Sciences, Ferdowsi University of Mashhad  
Park Square, Ferdowsi University of Mashhad, Iran  
E-mail: m.zabihi20@yahoo.com

Received: July 27, 2011

Accepted: August 29, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p120

URL: <http://dx.doi.org/10.5539/ibr.v5n1p120>

## Abstract

In this research, the dynamic effect of globalization on unemployment rate in Iran is investigated during the period 1971 to 2006 using Johansen-Juselius co-integration test. Thus, the trade intensity index (ratio of total exports and imports to GDP) as a measure of globalization have used. Also in this model, gross domestic product, the consumer price index as well as other variables affecting the unemployment rate have considered. Findings show that the globalization has a significant and negative effect on unemployment rate. The value of error correction coefficient is equal to -0.46 implying that around 95% of the unemployment rate adjustment occurs after two years.

**Keywords:** Globalization, Unemployment Rate, Openness, Co-integration, Error Correction Mechanism

## 1. Introduction

Globalization is a process of socio-economic integration across the globe and is one of the most hotly-debated topics in international economics. It is a progression by which events, decisions and activities in one part of the world have significant consequences on other parts of the globe. Globalization is a total mindset in which the entire world becomes a single market so that the corporate strategy is based on the dynamics of global business environment. (Pradhan, 2010)

Globalization has both benefits and costs and thus has supporters and opponents. Mandle (2003) has discussed at length the benefits and costs of globalization. He attacks the anti-globalization movement and refutes the false notions associated with major criticism of globalization. His major premise is that globalization is concerned with economic growth necessary to take care of poverty and therefore, globalization is promoted because development and integration of the global markets have a substantial impact on poverty reduction.

It is essential to look at globalization trends in Iran for the period ranging from 1971 to 2006.

Insert Figure 1 Here

The paper is organized in V Sections. Section II summarizes some recent literature on the subject. Section III explains data and mathematical model employed to capture the influence of globalization on unemployment rate. Section IV incorporates the empirical results. Section V concludes the study and discusses some implications for the current debate about the impacts of globalization on unemployment rate in general.

## 2. Literature Review

Arema, et al. (2010) addressed the impact of globalization on labour force utilization in Nigeria. They showed that globalization practice could generate negative impact on employment in both short- and long run periods suggesting that if globalization continues as being practiced, globalization could further worsen the extant decrepit state of unemployment in Nigeria other things being equal.

Maurizio (2009) analyzes the Argentine experience of the interactions of macroeconomic regime, labour performance, income distribution and poverty during the Convertibility Plan and the new macroeconomic regime that followed the collapse of the currency board regime. The macroeconomic framework is found to have a bearing on the social situation. Further, the negative effects of the macroeconomic configuration on the labour market and income distribution persist even after the country has resumed a growth path. The complete recovery of the standard of living conditions thus requires additional public policy efforts targeted at the more vulnerable groups, even under macroeconomic regimes more favourable to employment generation.

Dutt, et al. (2009) present a model of trade and search-induced unemployment, where trade results from Heckscher–Ohlin (H-O) and/or Ricardian comparative advantage. Using cross-country data on trade policy, unemployment, and various controls, and controlling for endogeneity and measurement-error problems, they find fairly strong and robust evidence for the Ricardian prediction that unemployment and trade openness are negatively related. This effect dominates the positive H-O effect of trade openness on unemployment for capital-abundant countries, which turns negative for labour-abundant countries. Using panel data, they find an unemployment-increasing short-run impact of trade liberalization, followed by an unemployment-reducing effect leading to the new steady state.

Daniels, et al. (2006) develop a model of an open economy containing both sectors in which wages are market-determined and sectors with wage-setting arrangements. A portion of the latter group of sectors coordinate their wages, taking into account that their collective actions influence the equilibrium inflation outcome in an environment in which the central bank engages in discretionary monetary policymaking. Key predictions forthcoming from this model are (1) increased centralization of wage setting initially causes inflation to increase at low degrees of wage centralization but then, as wage centralization increases, results in an inflation drop-off; (2) a greater degree of centralized wage setting reduces the inflation-restraining effect of greater central bank independence; and (3) increased openness is more likely to reduce inflation in nations with less centralized wage bargaining. Analysis of data for seventeen nations for the period 1970–1999 provides generally robust empirical support for all three of these predictions.

Lee and Vivarelli (2006) use an ex-post measurable definition of globalization, namely increasing trade openness and FDI. A general result is that the optimistic Heckscher–Ohlin/Stolper–Samuelson predictions do not apply, that is neither employment creation nor the decrease in within-country inequality are automatically assured by increasing trade and FDI. They also show that: 1) the employment effect can be very diverse in different areas of the world, giving raise to concentration and marginalization phenomena; 2) increasing trade and FDI do not emerge as the main culprits of increasing within-country income inequality in DCs, although some evidence emerges that import of capital goods may imply an increase in inequality via skill-biased technological change; 3) increasing trade seems to foster economic growth and absolute poverty alleviation, although some important counter-examples emerge.

Jenkins (2006) considers the impact of foreign direct investment on employment in Viet Nam, a country that received considerable inflows of foreign capital in the 1990s as part of its increased integration with the global economy. He shows despite the significant share of foreign firms in industrial output and exports, the direct employment generated has been very limited because of the high labour productivity and low ratio of value added to output of much of this investment. He also shows that the indirect employment effects have been minimal and possibly even negative because of the limited linkages which foreign investors create and the possibility of “crowding out” of domestic investment.

The findings of Tule (2004), Ozughalu and Ajayi (2004) emphasized that the negative effects of globalization could generate a rising inequity and inequality in the distribution of the dividends of globalization.

Ghose (2000 and 2003) analyses the relationship between trade liberalization and manufacturing employment. He highlights that - although increasing trade and FDI have been relevant only in a small bunch of newly industrialized countries - for those countries the growth of trade in manufactured products has implied a large positive effect on manufacturing employment.

### **3. Data and Methodology**

The annually data covering the period 1971-2006 comes from the Central Bank of the Islamic Republic of Iran. The variables used are as follows:

UNEMP=Unemployment rate

OPEN=Trade intensity index

CPI=Consumer price index

GDP=Gross domestic product

DUM80=Dummy for years of war (1980-1987)

Gonzales (1994) argued that the Johansen and Juselius (1990) procedure has superior properties than the Engle-Granger two-step procedure. The maximum likelihood methodology suggested by JJ is based on the following VAR model:

$$X_t = \mu + \Pi_1 X_{t-1} + \Pi_2 X_{t-2} + \dots + \Pi_p X_{t-p} + \varepsilon_t \quad (1)$$

Where  $X$  is a  $(n \times 1)$  vector of variables,  $\mu$  is a  $(n \times 1)$  vector of constant terms,  $\Pi_1, \Pi_2, \dots, \Pi_p$  are  $(n \times n)$  coefficient matrices and  $\varepsilon$  is a  $(n \times 1)$  vector of error terms with zero mean and constant variables. The reparameterization of (2) can be written as:

$$\Delta X_t = \mu + \sum_{i=1}^{p-1} \Gamma_i X_{t-i} + \Gamma X_{t-p} + e_t \quad (2)$$

Where  $\Gamma_i = -I + \Pi_1 + \dots + \Pi_i$  ( $i=1, 2, \dots, p-1$ ), and  $\Gamma = -I + \Pi_1 + \dots + \Pi_p$ . The rank of the matrix  $\Gamma$ , the matrix determining the long-run relationships between variables, is equal to the number of independent co-integrating vectors denoted by  $r$ . If  $r=0$ , then the elements of  $X$  are nonstationary, and (2) is a usual VAR in first differences.

Instead, if the rank ( $\Gamma$ ) is  $n$  and  $r=n$ , then the elements of  $X$  are stationary.  $\Gamma X_{t-p}$  is error-correction factor, if  $r=1$ . For other cases,  $1 < r < n$ , there are multiple co-integrating vectors. The number of distinct co-integrating vectors can be obtained by checking the significance of characteristic roots of  $\Gamma$ .

JJ suggests two test statistics to determine the number of co-integrating vectors. The first statistic, likelihood ratio or trace statistic, is for testing the hypothesis that the co-integrating rank is at most  $r$  against a general alternative. The second test, max statistic, is employed for testing the alternative hypothesis  $r+1$  and given by  $\lambda_{\max}(r, r+1) = -T \ln(1 - \lambda_{i+1})$ . It should be clear that if characteristic roots are close to zero, both  $\lambda_{\text{trace}}$  and  $\lambda_{\max}$  statistics will be small.

#### 4. Empirical Analysis

Nelson and Plosser(1982) affirm, we first need to check for the stationarity of the series. Several unit root tests exist to check for stationarity of the series. In order to proceed for the co-integration analysis, one must establish that the variables possess the same order of integration. A variable is called integrated order of  $d$ ,  $I(d)$ , if it has to be differenced  $d$  times to become stationary (Kennedy, 1996). We apply the Augmented Dickey-Fuller (1981) test to examine the stationarity characteristics of the series.

Insert Table 1 Here

Results clearly indicate that the variables are not stationary at level but the first differences of the logarithmic transformations of the series are stationary. Therefore, it can be safely said that series are integrated of order one  $I(1)$ .

The next step to carry on the co-integration testing procedure is to determine the optimal lag-length and to specifying the model. To proceed with this, the Akaike Information Criterion (AIC) was calculated for lags ranging from one to four for all possible co-integration vectors form models with either restricted intercepts and no trends or unrestricted intercepts and restricted trends. The maximum absolute value of the criterion suggests a specification of model without intercept or linear trend, one lag and one co-integration vector.

Insert Table 2 Here

In Table 2. results of trace,  $\lambda_{\text{trace}}$ , and maximal eigenvalue,  $\lambda_{\max}$ , test statistics are presented. The results indicate that there is exactly one co-integrating vector in the model. This means that a single vector uniquely defines the co-integration space (Harris and Sollis, 2005).

Insert Table 3 Here

Normalized co-integrating coefficients with standard errors are presented in Table 3.

Based on the estimated coefficients reported in Table 3, the long-run equilibrium unemployment rate is given by the following equation:

$$LUNEMP = -0.40LOPEN + 0.45LCPI - 1.83LGDP + 0.38DUM80 \quad (3)$$

Since all the variables are measured in logarithms, the regression coefficients can be directly interpreted as elasticities. The results reveal that both trade intensity index and gross domestic product have significant negative impacts on unemployment rate. The long-run elasticity from the coefficients OPEN and GDP suggests that a 1 per cent increase of the OPEN and GDP yield 0.40 per cent and 1.83 per cent decrease in UNEMP respectively. The long-run elasticity from the coefficient CPI suggests that a 1 per cent increase of the CPI yield 0.45 per cent increase in UNEMP.

Insert Table 4 Here

The vector error correction model (VECM) estimation result is given in Table 4. As expected, the error correction variable ECM (-1) has been found negative and also statistically significant. The Coefficient of the ECM term suggests that adjustment process is quite fast and 46% of the previous year's disequilibrium in unemployment rate from its equilibrium path will be corrected in the current year.

### 5. Impulse Response Function (IRF) and Variance Decompositions (VDC)

To evaluate the dynamic interactions among the variables and the relative importance of various shocks, the study uses impulse response function and variance decompositions as additional checks of the above findings.

Insert Figure 2 Here

Since shocks to a particular variable can generate variations both in itself and in other variables, we employ the orthogonalized methodology of Sims (1980) to determine impulse responses. In this approach it is possible to trace out the time path of the various shocks on the variables.

It is showed in Figure 2 that the response of LUNEMP to a one standard deviation (S.D.) shock in LCPI is stronger at the beginning. The response to LCPI's standard deviation innovation becomes stronger and stronger to maximum at the fifth period and changes to a steady value. LUNEMP responses negatively to a positive shock in LOPEN and LGDP and this response lasts for a few periods of time and it becomes weak gradually to a steady value.

The results of VDC are reported in Table 5.

Insert Table 5 Here

The results show that the GDP is responsible for explaining 40% of the variation of unemployment rate in first period. This percentage reaches 70% after nine time periods. It seems that the GDP has a greater impact, compared to other variables, on the unemployment rate. These results support the results of the co-integrating equation above. Results obtained from the variance decomposition procedure are given in Figure 3.

Insert Figure 3 Here

### 6. Conclusions

In this paper, we examine the dynamic effect of globalization on unemployment rate in Iran using annual time-series data for the 1971-2006. The paper utilizes Johansen-Juselius Co-integration Methodology and Vector Error Correction Modeling to analyze this relationship for Iran.

The results of trace,  $\lambda_{trace}$ , and maximal eigenvalue,  $\lambda_{max}$ , test statistics indicate that there is exactly one co-integrating vector in the model. This means that a single vector uniquely defines the co-integration space. Based on the results of short-run and long-run, the trade intensity index and the gross domestic product are negatively related with unemployment rate, while the Consumer price index is positively related with unemployment rate. The error correction variable ECM (-1) has been found negative and statistically significant. The Coefficient of the ECM term suggests that adjustment process is quite fast and 46% of the previous year's disequilibrium in unemployment rate from its equilibrium path will be corrected in the current year. The results of the variance decomposition show that the GDP is responsible for explaining 40% of the variation of unemployment rate in first period. This percentage reaches 70% after nine time periods. It seems that the GDP has a greater impact, compared to other variables, on the unemployment rate.

### References

- Aremo, Adeleke Gabriel, & Alagbile Monica Adele. 2010. Empirical analysis of the impact of globalization on labour force utilization: Evidence from Nigeria. *African Economic and Business Review*, 8(1), 1-18.
- Dutt, P., Mitra, D., & Ranjan, P. (2009). International trade and unemployment: Theory and cross-national evidence. *Journal of International Economics*, 78(1), 32-44.
- Daniels, J. P., Nourzad, F., & VanHoose, D. D. (2006). Openness centralized wage bargaining, and inflation. *European Journal of Political Economy*, 22(4), 969-988. <http://dx.doi.org/10.1016/j.ejpoleco.2005.09.001>

- Dickey, D. A., & Fuller, W. A. (1981). Likelihood ratio statistics for auto regressive time series with a unit root. *Econometrics*, 49, 1057-1072. <http://dx.doi.org/10.2307/1912517>
- Ghose, A. K. (2000). *Trade Liberalization and Manufacturing Employment, ILO Employment Paper, No.3*. Geneva: International Labour Office.
- Ghose, A. K. (2003). *Jobs and Incomes in a Globalizing World*. Geneva: International Labour Office.
- Gonzales, J. (1994). Five alternative methods of estimating long-run equilibrium relationships. *Journal of Econometrics*, 60, 203-233. [http://dx.doi.org/10.1016/0304-4076\(94\)90044-2](http://dx.doi.org/10.1016/0304-4076(94)90044-2)
- Harris, R., & Sollis R. (2005). *Applied Time Series modelling and Forecasting*. West Sussex: Wiley.
- Jenkins, R. (2006). Globalization, FDI and employment in Viet Nam. *Transnational Corporations*, 15(1).
- Johansen, S., & Juselius, K. (1990). Maximum Likelihood Estimation and Inference on Co-integration With Applications To the Demand For Money. *Oxford Bulletin of Economics and Statistics*, 52(2), 169-210. <http://dx.doi.org/10.1111/j.1468-0084.1990.mp52002003.x>
- Kennedy, P. (1996). *A Guide to Econometrics*. (3rd ed.). Cambridge: The MIT Press.
- Lee, E., & Vivarelli, M. (2006). The Social Impact of Globalization in the Developing Countries. Discussion Paper No.1925.
- Mandle, J. R. (2003). *Globalization and the Poor*. Cambridge: Cambridge University Press.
- Miller, S. M., & Upadhyay, M. P. (2000). The effects of openness, trade orientation, and human capital on total factor productivity. *Journal of Development Economics*, 63(2), 399-423. [http://dx.doi.org/10.1016/S0304-3878\(00\)00112-7](http://dx.doi.org/10.1016/S0304-3878(00)00112-7)
- Nelson, C. R., & Plosser, C. I. (1982). Trends and Random Walks in Macroeconomic Time Series: Some Evidence and Implications. *Journal of Monetary Economics*, 10, 139-162. [http://dx.doi.org/10.1016/0304-3932\(82\)90012-5](http://dx.doi.org/10.1016/0304-3932(82)90012-5)
- Ozughalu, U. M., & Ajayi, P. I. (2004). Absolute Poverty and Globalization: A Correlation of Inequity band Inequality, Globalization and Nigeria's Economic Development: proceedings of the one-day Seminar of the Nigerian Economic Society, Ibadan, 509-540.
- Pradhan, R. P. (2010). Globalization in India: With special reference to 1990s. *Journal of Economics and International Finance*, 2(5), 76-84.
- Maurizio, R. (2009). Macroeconomic Regime, Trade Openness, Unemployment and Inequality: The Argentine Experience. THE IDEAs WORKING PAPER SERIES, No.03.
- Sims, C. A. (1980). Macroeconomics and Reality. *Econometrica*, 48, 1-49. <http://dx.doi.org/10.2307/1912017>
- Tule, M. K. (2004). Globalization and Economic Development in West Africa: A Synthesis of Issues. Globalization and Nigeria's Economic Development: proceedings of the one-day Seminar of the Nigerian Economic Society, Ibadan.

Table 1. Unit Root Analysis

Variable	ADF-Level	intercept but not a trend		intercept and a linear trend	
		ADF-1st Diff	ADF-Level	ADF-1st Diff	
LUNEMP	-1.8772	-8.1327	-1.7644	-9.5176	
LOPEN	-2.7689	-4.5988	-2.2236	-4.7649	
LCPI	-0.62802	-3.2359	-1.9772	-3.7861	
LGDP	-0.10067	-3.8110	-1.9112	-6.4874	
5% Critic Value	-2.9591	-2.9627	-3.5615	-3.5671	

Table 2. Johansen Co-integration Test Statistics

$\lambda_{trace}$ Test		Alternative Hypothesis	$\lambda_{trace}$ Statistics	95 per cent C.V
Null Hypothesis				
$r = 0$		$r \geq 1$	37.5663	33.6400
$r \leq 1$		$r \geq 2$	24.7005	27.4200

$\lambda_{max}$ Test		Alternative Hypothesis	$\lambda_{max}$ Statistics	95 per cent C.V
Null Hypothesis				
$r = 0$		$r = 1$	73.3304	70.4900
$r \leq 1$		$r = 2$	40.7641	48.8800

Note: denotes the number of Co-integrating vectors and the 95 per cent confidential level of the trace and maximum eigenvalue statistics. \* denotes significance at 1 per cent significant level.

Table 3. Normalized Co-integrating Coefficients: 1 Co-integrating Equation

LUNEMP	LOPEN	LCPI	LGDP	DUM80
1.0000	0.39691	-0.44707	1.8283	-0.37993
	(0.16552)	(0.14625)	(0.53231)	(0.12936)

Table 4. Error correction model results

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
Intercept	11.0036	3.8326	2.8710[0.007]
Ecm1(-1)	-0.45971	0.16026	-2.8685[0.007]

D.W	2.03
Serial Correlation	0.012384[0.911]
Functional Form	0.079575[0.778]
Normality	3.9850[0.136]
Heteroscedasticity	0.10293[0.748]

Table 5. Variance Decomposition of unemployment rate

period	LUNEMP	LOPEN	LCPI	LGDP
0	1.0000	0.0192	0.0162	0.3987
1	0.9013	0.0239	0.0245	0.5374
2	0.8069	0.0260	0.0468	0.6064
3	0.7407	0.0269	0.0652	0.6429
4	0.6957	0.0275	0.0784	0.6645
5	0.6644	0.0278	0.0878	0.6785
6	0.6418	0.0282	0.0946	0.6882
7	0.6249	0.0283	0.0998	0.6954
8	0.6119	0.0284	0.1038	0.7010
9	0.6015	0.0285	0.1069	0.7053
10	0.5932	0.0286	0.1095	0.7088

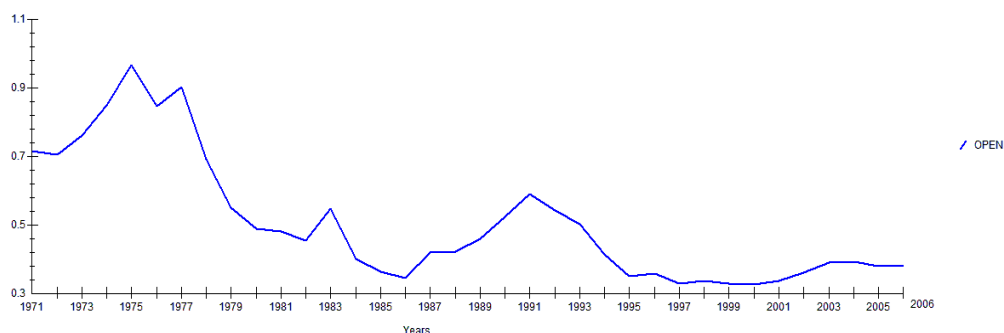


Figure 1. Globalization Trends in Iran

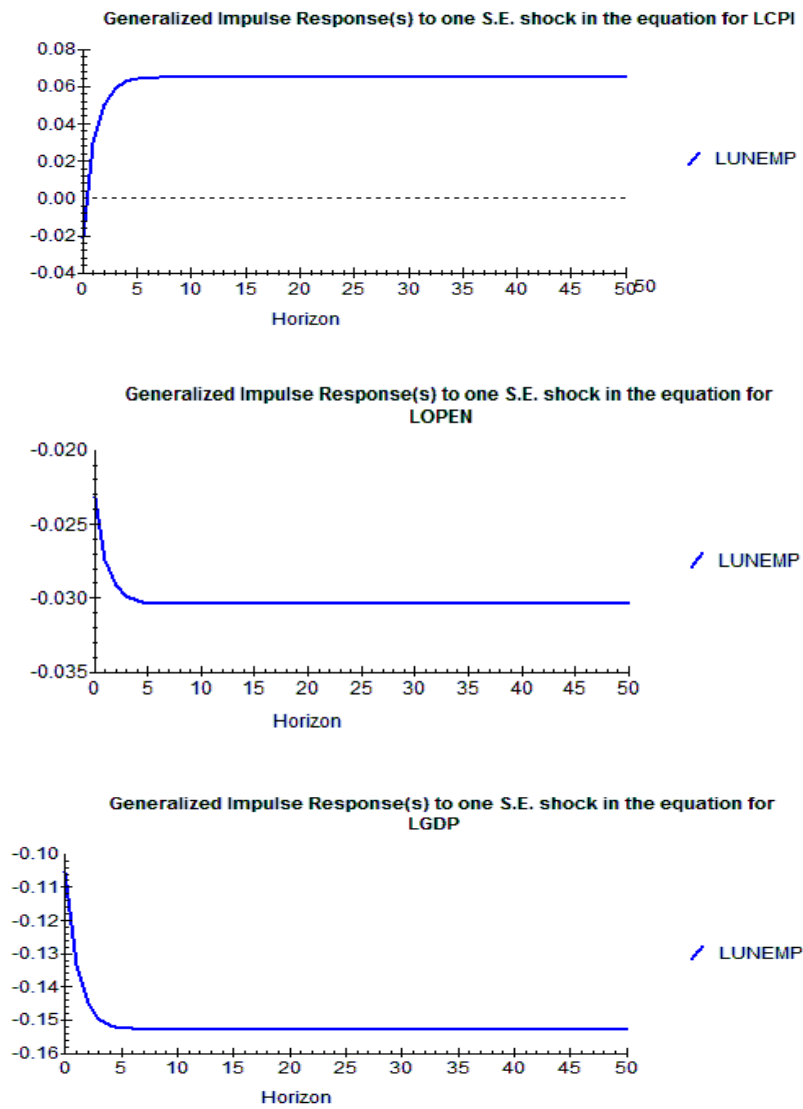


Figure 2. Impulse responses to innovations

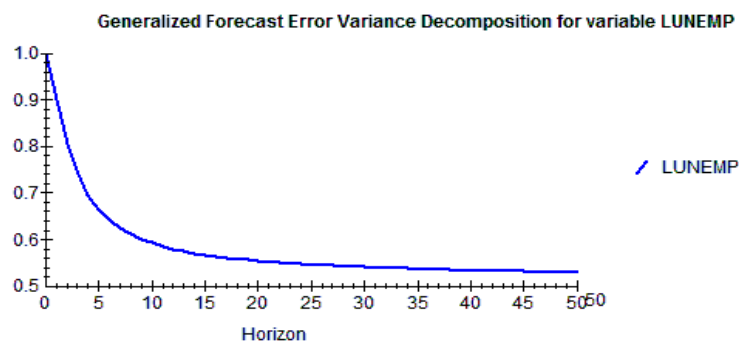


Figure 3. Variance Decompositions



# Ownership-Control Discrepancy and Dividend Policy: Evidence from Tunisia

Moncef Guizani

Higher Institute of Computer Science and Management of Kairouan

E-mail: guizani\_m@yahoo.fr

Mondher Kouki (Corresponding author)

Faculty of management and Economics Sciences of Tunis

Tel: 216-98-543-763 E-mail: koukimondher@yahoo.fr

Received: July 22, 2011

Accepted: November, 17, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p127

URL: <http://dx.doi.org/10.5539/ibr.v5n1p127>

## Abstract

This paper examines the relation between the ownership-control discrepancy and dividend policy of Tunisian firms. Using data of 44 Tunisian firms, the current study provides evidence in support of the expropriation hypothesis. The empirical results show that the largest shareholder maintains a controlling power measured by Banzhaf index in excess of his cash flow rights which, leads to a low level of dividend payout ratios. In contrast, when the control power is shared between multiple large shareholders, Tunisian firms are likely to pay large dividends.

**Keywords:** Dividend policy, Ownership and control, Voting power, Agency conflicts, Banzhaf power index, Tunisia

## 1. Introduction

The corporate finance literature has traditionally focused on mitigating agency conflicts between managers and shareholders due to a separation of ownership and control (Jensen and Meckling 1976). Recent empirical studies have shown that in most countries publicly traded firms often have large shareholders, giving rise to another agency conflict between controlling shareholders and minority shareholders ( LaPorta *et al.* 1999; Claessens *et al.* (2000, 2002); Faccio and Lang, 2002; Barca and Becht, 2002; Masulis *et al.* 2009; Jong *et al.* 2011). This observation contrasts with the Berle-Means thesis of the “widely held corporation” and indicates that several firms with controlling shareholders become more widespread through many countries around the world. The potential problems involved in large shareholders representing their own interests become particularly aggressive if their control rights are significantly more important than their equivalent level of cash flow rights.

According to Burkart and Lee (2008), the rule of one share-one vote is not the most practice of the relationship between ownership and control rights. Compared to North America, such deviations are more frequent in European companies. Gompers *et al.* (2007) observed that the fraction of listed companies with dual-class shares is about 22% on the Toronto stock Exchange. As noted by Bebchuk *et al.* (2000) such a radical separation of control and cash flow rights can occur in three main ways: (i) through dual-class share structures, (ii) stock pyramids, and (iii) cross-ownership. Regardless of how this separation is defined, the authors consider this pattern of ownership as a controlling-minority structure (CMS) because it allows a large shareholder to control company’s decisions while holding a disproportionately small fraction of cash flow rights. We support this analysis by the additional form of CMS that takes into account coalition between shareholders. For a given ownership structure, a block representing 20% of the votes in a company, which has widely dispersed shareholdings is likely to yield effective control over the company with concentrated ownership (Crama *et al.* 2003). While a block of 25% in a company with a majority shareholder may not give its holder significant influence (Trojanowski and Renneboog, 2005).

There are abundant empirical literatures showing that minority investors of firms in which the controlling shareholder holds control rights in excess of his/her cash flow rights are vulnerable to an expropriation problem. Earlier studies indicate that excess control generally implies higher earnings management, a transfer of resources from the firm to the controlling shareholder through self-dealing transactions (Johnson *et al.* (2000)) and value

discount (Claessens *et al.* (2000), La Porta *et al.* (2002)), and decreasing dividend (Faccio *et al.* 2001, Gugler and Yurtoglu 2003, chen *et al.* 2005, Mancinelli and Ozkan 2006).

According to Faccio *et al.* (2001), dividends play a crucial role in limiting the power of top management and their expropriation activities and consequently remove corporate wealth from insider control to outsider shareholders. Maury and Pajuste(2002) advanced two justifications of the agency problem of dividend policy: (i) The first view considers dividends as an outcome of the agency conflicts between insiders and outsiders as well as between blockholders and minority shareholders. Under such conditions the level of dividend payout depends on shareholders' legal protection. In countries with the strongest protection (Common-law), firms distribute higher dividends than in countries with poor protection (civil law). (ii) The second approach argues that dividend policy and governance mechanisms are substitute devices to control insiders' opportunism and entrenchments.

Using a dynamic panel data of U.K firms, Trojanowski and Renneboog (2005) analysed the effect of control structure on target payout ratio. They found that controlling shareholders are concerned with the trade-off between the risk of underinvestment and the agency problems of free cash flow. The empirical tests showed that voting power of shareholders' coalitions and dividend are negatively correlated and the level of this relationship differs across different categories of blockholders. Based on a sample of 8279 firms from 37 countries, Truong and Heaney (2007) examined the possible interaction between dividend policy and the type of the largest shareholders. They showed that firms are likely to pay fewer dividends when the large owner is either an insider or a financial institution. Baulkaran (2009) propose three motivations based on reputation, private benefits and family legacy to explain the effect of agency problems and private benefits on firm's dividend behaviour.

This paper focuses on the effect of the conflicts of interests between majority shareholders and minority shareholders on firms' dividend policy. It complements the existing empirical literature in two ways. (i) First, we investigate the effect of separation between ownership and control on Tunisian firms' dividend policy. (ii) Second, we advocate the use of Banzhaf index, derived from game theory as a relevant measure of voting power in the analysis of the relationship between dividend and control of the largest blockholder for each class of ownership-control structure.

The remainder of this paper is organized as follows. Section 2 reviews the literature regarding the relationship between dividend payout and controlling minority structure. Data, methodology and descriptions of variables are presented in section 3. Our empirical results will be discussed in section 4. Section 5 concludes.

## 2. Literature Review

According to Jensen and Meckling (1976) agency costs arise with the separation of ownership and control of the firm because managers and shareholders have different objectives. Whenever a firm suffers from agency conflicts, payout policy can serve as a partial remedy to this problem (Rozeff, 1982). Payment of dividends reduces the discretionary funds available for managers for perquisite consumption. Grossman and Hart (1980) and Jensen (1986) showed that firms pay dividend to mitigate agency costs of equity which considerably reduce free cash flow available to managers. This phenomenon has since become known as a principal-agent puzzle which may be less important when controlled blockholders monitor firms on behalf of minority shareholders.

In recent years, several empirical studies have shown that ownership structures of many firms are significantly concentrated. Research in this area has tended to resolve focal questions like how conflicts of interests between insiders and outsiders affect financial decisions and firm value? What are the best mechanisms which minimise risk of expropriation? In this context, La Porta *et al.* (1999) used data on ownership structure of large firms in 27 countries. They showed that, except in countries with stronger shareholders protection (like USA and UK), few of these corporations are widely dispersed (45% of the large and medium sized firms are owned by families). Their empirical investigations suggest that ownership and control can be separated in favour of controlling shareholders at the expense of minority shareholders.

As proposed by Shleifer and Vishny (1997), when large shareholders effectively control the firm, they start diverting funds toward private benefits that are not shared by other stockholders. Controlling shareholders may pay themselves excessive compensation, the power to elect board members, the ability to consume perquisites and to transfer resources at the expense of the firm and minority shareholders (Grosman and Hard, 1988; Harris and Raviv, 1988; Maury and Pajuste, 2010). Therefore, the relevant agency problem is expropriation of minority shareholders by the large shareholders. Expropriation of non-controlling shareholders is conducted in many different ways including dividend (Faccio *et al.* (2001)). Thus, if earnings are not distributed to stockholders as dividends, they will increase the amount of free cash flow that could be diverted by insiders to their private consumption. As explained by La Porta *et al.* (2000, page 2) "failure to disgorge cash leads to its diversion or waste, which is detrimental to outside shareholders' interest".

Holderness *et al.* (2000) show that dividend payout is higher in firms with diffused ownership than in firms of similar size but with large shareholders. The empirical tests conducted by Faccio *et al.* (2001) suggest that corporations that are “tightly-affiliated” pay significant higher dividends to a business group via a chain of control that possesses at least 20 percent of the control rights at each link, and amongst such corporations, to those having a lower ownership to control ratio. By contrast, for corporations not tightly affiliated to a group, a lower ownership to control ratio is associated with significantly lower dividend ratios.

Maury and Pajuste(2002) analyze the effect of the ownership/control structure on dividend policy in Finish listed corporations. They find that firms become less likely to pay dividends when the total stake held by the blockholders represents a significant portion of the equity ownership. In the German context, Gugler and Yurtoglu (2003) show that lower dividend payout of majority-controlled firms is related to the probability that controlling shareholders extract private benefits at the expense of minority shareholders. Using cross-sectional sample of Czech firms, Bena and Hanousek (2008) showed that concentrated shareholders extract private benefits at the expense of the small shareholders. For Tunisian firms, Guizani *et al.* (2008) and Kouki and Guizani (2009) find that the voting power of the largest shareholder is associated with low payout ratios. Furthermore, firms with majority control distribute low fraction of their benefits as dividend then their counterparts with shared control.

A crucial feature arising from the principal-agent issues is that agency problems are more severe when the separation between control rights and cash flow rights is much more important. According to Bebchuk *et al.* (2000), a controlling minority structure (CMS) has the potential of creating large agency costs. This structure combines two agency costs related respectively to conflicts between shareholders and managers and those related to conflicts between majority shareholders and minority shareholders. The former costs are likely to be dropped because shareholders do participate in managing the firm, while the latter costs are growing because controlling shareholders are indeed likely to manage the business for their own interests at the expense of minority shareholders' wealth.

Using a panel data of 309 Swedish listed firms, Cronqvist and Nilsson (2003) showed that the controlling minority shareholders structures with dual-class shares are more used by family stockholders than other categories of investors. According to Bena and Hanousek (2008), controlling shareholders have two effects on firms: (i) they are motivated to monitor management's behaviour and performance in order to ensure that shareholders' wealth is maximised. (ii) Their behaviour is characterized by the possibility to extract benefits of control at the expense of minority shareholders. The authors tested these hypotheses in a weak legal protection context of an emerging economy. They find that the presence of significant minority shareholder is associated with higher level of target payout ratio and hence prevents large blockholders from extracting private benefits.

The study conducted by How *et al.* (2008) examined the relationship between dividend policy and ownership and control structure in Hong Kong. For a sample of family controlled firms, the authors showed that higher dividend payouts are distributed when the size of family-controlled firms are small or medium. However when discrepancy between the controlling shareholder's cash flow right and voting rights is significant, large family-controlled firms are more likely to decrease dividend payout ratio.

Boukaran (2009) analyses the association between dividend policy and the opportunity to expropriate wealth from minority shareholders for two classes of ownership structures (single and dual class). The empirical tests are conducted on US firms in order to test three potential explanations of controlling shareholders behaviour: reputation, private benefits and family legacy. The results showed that single class companies pay out more cash dividend compared to dual class. The tests showed as well that dividend payout ratio decreases as the separation between control and cash flow rights is higher.

De Cesari (2010) tests the hypothesis that payout policy is used in poor governed companies in order to mitigate corporate agency conflicts. Using a sample of Italian firms, the author shows that (i) dividends are positively associated with a discrepancy between voting and cash flow rights of the dominant shareholders (ii) the level of dividend ratio decreases when cash flow rights of the controlling shareholder increase. (iii) dividend payout is lower for family-controlled firms than for other concentrated companies.

Jong *et al.* (2011) advanced two explanations of the possible relationship between dividend payout and the separation ownership-control rights. (i) The first argument considers the expropriation hypothesis which assumes a negative relationship between controlling shareholders and dividend payout. (ii) The substitution hypothesis (free cash flow hypothesis and dividend signalling model) assumes that stock market reacts negatively to expropriation risk. In this case, a dominant shareholder who focuses more attention on the company's reputation wants to commit stable or generous dividend in order to maximise firm value.

### 3. Data and Methodology

#### 3.1 Sample

The selection of our sample is based on the list of issuers of listed securities admitted to trading on a regulated market or on the unlisted market from the Tunisian securities market commission. The data were collected from the annual reports of each company registered in the official bulletins of the Tunisian stock exchange (TSE) and the financial market council (FMC). We have excluded companies whose financial information is incomplete during the period of analysis. We therefore construct a sample of 44 companies with data for the years 1998 through 2007, in a total of 440 observations. It includes 23 financial firms, 15 industrial firms and 13 service firms.

#### 3.2 Variables Construction and Hypotheses Development

Dependent variable:

The dependant variable, Payout is the dividend payout ratio measured as the ratio of dividends to earnings. Dividend is cash dividend and earnings are measured after taxes and interests. The cash dividend ratio was chosen to describe dividend behaviour since Tunisian firms are less likely to use stock repurchase.

Explanatory variables:

Discrepancy between ownership and control (OWCONT): we use the ratio of ownership rights as measured by the number of shares held by the major shareholder (OW1) deflated to control rights as measured by voting power of the controlled shareholder (BZ1). This ratio is the inverse of the discrepancy between control and ownership. If the expropriation hypothesis is correct, which reflects high discrepancy and equivalent to verify small value of OWCONT, then we expect ownership to control rights to be positively related to dividend payout. This relationship is equivalent to having negative effect of the inverse of the OWCONT ratio.

Several studies document the complex and ambiguous measure of voting rights when firm's ownership structure is made of different classes of shares (single class, dual class...).

How to Measure voting power?

According to Trojanowski (2004), and Renneboog and Trojanowski (2005), a number of empirical studies have computed voting power by the size of the stake controlled by different blockholders. In such case, a shareholder with 30% of votes in widely held corporation is more likely to practice an effective control over the firm, while a shareholder with 35% of vote in firm with greater controlling blockholders does not hold sufficient rights to exercise significant influence over management decisions. The main problem with such a measure is that does not compute the set of all possible coalitions between large shareholders. Crespi and Renneboog (2003) propose that is better and more accurate to consider the relative rather than the absolute voting power rights of a given of shareholder, which determines his/her capacity to extract private benefits of control at the expense of minority investors. Many recent approaches explore the formation of coalitions between the main blockholders in order to have direct access to the private rents of control. The approach proposed here is to use the game theory to compute the formal power represented by the shareholder votes.

The idea is to consider large shareholders as a players in a voting games, in which each voter compute all the possible coalitions that he/she can build with other players. According to Banzhaf (1965), Leech (1988), Crama *et al.* (2003), we use Banzhaf power index as the measure of the voting power of the controlling shareholders. Specifically, the coalition underlying this model is calculated by the number of swings for player  $i$  as a proportion of the number of potential swings where his vote is decisive in such coalition. The Banzhaf swing probability is computed as follows (appendix2):

$$BZ_i = n_i / 2^{n-1} \quad , \quad i = 1, 2, 3, \dots, n \quad (1)$$

Where,  $n_i$  is the number of swings for player  $i$ .

Free cash flow (FCF): Besides, dividend payout ratio is also determined by other variables. Jensen's (1986) free cash-flow hypothesis suggests that if firms have cash in excess of their requirement of investment in positive-NPV projects, it is better to pay these funds as dividends in order to reduce managerial discretionary behaviour and thus avoid agency costs of free cash-flow. Rozeff (1982), Jensen *et al.* (1992) and Mollah *et al.* (2000) support this hypothesis, thus we predict a positive relationship between free cash-flow and dividend payout ratio. This variable is measured as operating cash flow minus capital expenditure and change in working capital deflated by total assets.

Past growth (Growth): As the choice of payout policy cannot be separated from investment opportunities available to the firm, our model predicts a negative relationship between past growth and dividend payout ratio since firms

prefer to avoid transaction costs due to external financing. According to pecking order theory, we can expect firms to pay fewer dividends if they experienced past growth. Previous studies such as Rozeff's find that dividend policy is negatively influenced by firm's past growth. As Rozeff (1982), we measure past growth by the average of the historical sales growth for the 1998-2007 periods.

Cost of debt (KDebt): Agency conflicts can exist also between shareholders and debtholders. Shareholders can expropriate wealth from debtholders by paying themselves high dividends. Bondholders try to contain this problem through restrictions on dividend payment in the bond commitments (Kalay (1982); Smith and Watts (1992)). Debtholders can impose high level of interests for firms paying high dividends. Therefore, we expect a negative relationship between payout ratio and cost of debt. This variable is defined as the financial expenditure deflated by total bank debt.

Profitability (ROA): Consistent with a signalling perspective (Miller and Rock (1985)), dividend payout may correlate positively with profitability. Jensen *et al.* (1992) find evidence of a positive association between return on assets (ROA) and dividend payouts. This variable is defined as the mean ratio between after-tax earnings before extraordinary items and total assets.

Therefore, according to the agency problems related to the behaviour of the controlling shareholders, we propose our main testable hypotheses as follows:

Hypothesis 1: «excess of control rights over cash flow rights of the controlling shareholder has a negative effect on the dividend payout ratio».

Hypothesis 2 “voting power is more likely to affect dividend policy when the largest shareholder is belonging to the controlling minority structure (CMS).

### 3.3 Regression Specification and Estimation Methodology

Based on predictions of finance theory and our earlier discussion, we consider the empirical model described below (model 1):

$$Payout_{it} = \alpha_0 + \alpha_1 OWCONT_{it} + \alpha_2 FCF_{it} + \alpha_3 Growth_{it} + \alpha_4 KDebt_{it} + \alpha_5 ROA_{it} + \varepsilon_{it} \quad (2)$$

Where Payout is dividend payout ratio, OWCONT is ownership to control ratio, FCF denotes free cash flow ratio, Growth is past growth of the firm, KDebt is cost of debt, and ROA is return on assets,

The estimation of the proposed model is conducted on a panel data. According to Baltagi (2005), panel data gives multiples solutions to many problems related to cross-sectional specification like unobserved heterogeneity, degrees of freedom, dynamics and collinearity among the explanatory variables. In order to choose the appropriate specification, panel data methodology offers two tests namely the F-statistics and the Hausman's specification test. The former measurement tests the null hypothesis that the adequate estimator is OLS regression compared to individual effects model, while the latter statistic tests the null hypothesis that the random effects regression is appropriate compared to the fixed effects models.

For our results (Table 2), the F-statistic is significant at 1% level which indicates an existence of specific effects in our data. The second step consists of specifying the individual effects: a random effect or a fixed effect. The Hausman test gives a value of 4.84 with a p-value of 0.44 which indicates that the random effects are appropriate for our sample.

## 4. Empirical Results

### 4.1 Descriptive Statistics

Before proceeding to a more detailed analysis of the payout policy of Tunisian firms over the period 1998-2007, we present some preliminary results concerning the dividend-to-earnings ratio for firms with different control structures.

Table 1 summarizes the key characteristics of the sample firms. The results show that average free cash flow is 15% of total assets which indicates that the funds available to managers of Tunisian firms are relatively high. The existence of these funds may lead management to undertake sub-optimal investment projects. The sample mean values of growth, cost of debt and profitability proxies equal 11%, 7% and 5% respectively.

Insert Table 1 Here

Table 1 illustrates also the voting power (as measured by Banzhaf index, BZ1), the fraction of shares and the ownership to control ratio of the largest shareholder. Interestingly, we notice that the voting power of the largest shareholder is quite high (76%) making him/her very powerful. He/she holds 46% of the shares which give a mean

value of the OWCONT ratio of 61%, which gives an average gap about 1.65 between control and ownership of the largest shareholder (control rights = 1.65 cash flow rights). These results show that ownership in Tunisian firms is concentrated and control is often in the hand of the first largest shareholder.

#### 4.2 Test of the Effect of Ownership to Control Ratio on Dividend Policy

In this section, we present the regression results of dividend-to-earnings ratios on ownership to control ratio and other control variables in a sample of 44 Tunisian firms. The model is estimated under random effects.

The results are presented in Table 2. From these results we can derive the following conclusions:

- As predicted by our main hypothesis (*H1*), the influence of the ownership to control ratio of the largest shareholder (OWCONT) on dividend payout rate is significantly positive. Indeed, the more this ratio is high, the more the control is low, the company will distribute more significant portion of its profits to shareholders. In contrast, if the largest shareholder has a controlling power that exceeds his/her cash flow right, the retention of profits outweighs the dividend distribution as previously discussed. This result shows that when the largest shareholder holds full control without a majority of shares, he/she extracts private benefits at the expense of minority shareholders. This pattern is consistent with the claim made by Shleifer and Vishny (1997), that the dominant shareholder prefers to extract private benefits rather than receive dividends that equally benefit minority shareholders. In addition, the largest shareholder, since he/she is poorly diversified and risk averse, prefers an internal finance over an external one like bank debt which increases the firm's default risk or equity issue which dilutes his/her control. The results are also consistent with Faccio *et al.* (2001) who find that for firms tightly-affiliated to a group at the 20 percent level control, there is a significant positive relationship between OWCONT and dividends. Gugler and Yurtoglu (2003) also report that majority controlled firms in Germany have lower payouts. Elsewhere, Maury and Pajuste (2002) find that dividend payout ratio is negatively related to the control stake of the controlling shareholder in Finnish listed firms.
- In line with earlier expectations, firms that experienced a higher rate of free cash flow (FCF) pay more dividends. This is consistent with the free cash flow hypothesis of Jensen (1986) which indicates that when a firm has cash in excess of what is required to finance positive-NPV investment project, it is better for managers to return the excess cash to shareholders as dividends in order to maximize shareholders wealth.
- The coefficient associated to past growth (Growth) rate is negative but not statistically significant (a coefficient of -0.06 with probability of 0.16). This result, however, supports the transaction costs effect of external financing as suggested by Rozeff (1982). Firms that experienced a higher rate of annual growth pay fewer dividends in order to avoid transaction costs of external financing as predicted by pecking order theory.
- The cost of debt (KDebt) has a negative and significant effect on dividend payout ratio. As this cost increases with 1%, the dividend rate decreases with 2.66%. Debtholders impose higher interest rate for firms paying higher dividends in order to limit wealth transfer via dividend to shareholders. This evidence confirms our prediction that debt has a negative impact on dividends because of debt covenants and related restrictions imposed by debtholders as suggested by Kalay (1982) and Smith and Warner (1979).
- The profitability variable (ROA) is seen to positively and significantly influence dividend payouts. Firms pay higher dividend when they realize a comfortable financial situation. This relationship is consistent with the results of Kowalewski *et al.* (2007) in the context of Poland.

Insert Table 2 Here

#### 4.3 The Effect of Discrepancy Ownership-Control on Dividend for Each Class of Shareholders

The previous study is complemented by the analysis of the effect of the control of the largest shareholder on dividend policy. As we have suggested, the power of the largest shareholder in the company does not necessarily reflect its capital ownership but it is more related to the structure of the power among the principal stockholders. Therefore a shareholder may have a higher control in the company without having the majority of legal actions. This difference is remarkable when incentives for expropriation are more pronounced when controlling shareholder's control exceeds its cash flow right.

The data analysis allowed us to distinguish three groups of firms (Table 3):

- In the first group (SHARE), the largest shareholder holds shares less than 50% of the capital and a power control below 50%. The control of these firms is shared among several major shareholders. This group represents 34.09% of the total number of firms.

- The second group (CMS: "Controlling Minority Shareholders") consists of companies in which the dominant shareholder owns a percentage of shares less than 50% but its power of control (as measured by the Banzhaf index) exceeds 50%. This group represents 27.27% of the total number of firms.
- Finally, in the third group (MAJ), the largest shareholder holds the majority stake (more than 50% of shares) and thereafter the majority of voting rights. This group represents 38.64% of total number of firms. Table 3 summarizes the distribution of the sample between the couple cash flow right and voting right.

Following CMS and MAJ groups, the principal shareholder holds full control in 65.91% of cases where voting power exceeds 50%.

Insert Table 3 Here

The descriptive statistics of firms' financial variables show crucial differences between classes of shareholders. In table 4 panel A, we report descriptive statistics on the dividend payout ratio for three sub-samples-firms with majority control ( $OW1 > 50\%$  and  $BZ1 > 50\%$ ), firms with controlling minority structure ( $OW1 < 50\%$  and  $BZ1 > 50\%$ ), and firms with shared control ( $OW1 < 50\%$  and  $BZ1 < 50\%$ ). The results show that firms controlled by multiple large shareholders pay more dividend (57.3% of their benefits) compared to their counterparts that are majority controlled (46.7%) and with controlling minority structures (45.2%). This result is a priori of an efficiency indicator of sharing control as suggested by Gomes and Novaes (2001).

Insert Table 4 Here

We also present t-statistics for differences in mean values of dividend payout ratios between groups of firms according to cash flow rights and control rights of the largest shareholder. Panel B of table 4 summarizes the mean tests between groups. The t-statistics for the difference between dividend payout ratios in firms with majority control (MAJ) and firms with controlling minority structure (CMS) compared to firms with shared control (SHARE) are negative and statistically significant at 1% level. This result suggests that when the principal shareholder holds full control, firms pay lower dividends. This finding indicates the possibility of expropriation of minority shareholders. In fact, when the large owner is unambiguously in control, he/she may extract private benefits that are not shared with minority shareholders. The presence of multiple controlling blockholders increases dividend payout ratios. This result indicates that multiple large shareholders are beneficial to minority shareholders.

The results of descriptive statistics reported in Table 5 show that companies whose control is shared between several shareholders release a higher level of dividend. With more than 50% of voting power in the company, it seems that the main shareholder is likely to limit dividend flow. Indeed, payout ratios identified by the group CMS and MAJ are respectively equal to 50% and 48%. Moreover, the comparison among the three groups of firms based on their ownership structure and control shows a strong concentration of the main shareholder. This latter holds for the CMS group a controlling power (80%) which exceeds its ownership right (34%). In addition, the average values of other variables are similar for both groups in contrast to those of the SHARE group.

Insert Table 5 Here

The econometric tests of control rights on dividend policy are performed in one stage: we examine the impact of the level of control of the main shareholder on dividend payout for the three groups of firms separately. Model 2 (equation 3) to be tested is consistent with the above model 1 (equation 2), but we have replaced discrepancy variable with the voting power of the largest shareholder (BZ) for each class of ownership structure (SHARE, CMS, MAJ).

$$Payout_{it} = \lambda_0 + \lambda_1 BZ1_{it} + \lambda_2 FCF_{it} + \lambda_3 Growth_{it} + \lambda_4 KDebt_{it} + \lambda_5 ROA_{it} + \varepsilon_{it} \quad (3)$$

Where BZ1 is the benzhaf index which measures voting power of the principal shareholder. We expect a negative relationship between BZ1 and dividend payout. This effect is more likely to be verified in a controlling minority structure (CMS). The estimation results performed on the three groups of firms are listed in Table 6:

Insert Table 6 Here

Our objective is to test whether the detention of control power over ownership rights reduces the dividend ratio of the firm. From a financial point of view, the statistical tests performed on selected groups of companies provide interesting results. Indeed, according to hypothesis 2, the main shareholder has a negative effect on the level of dividend when it has a controlling power that exceeds 50%.

The coefficients of the variable BZ1 are respectively - 0.22 and - 0.70 for groups and CMS and MAJ and are significant at 10% level. However, when power control does not exceed 50%, the coefficient is positive and insignificant. This could be explained by the importance of shared control in making financial decisions. Under these conditions, the opportunistic behavior of the controlling shareholder is mitigated by the presence of other

important shareholders. In contrast, if ownership structures stimulate holding more control power (the minority shareholders do not hold enough shares to vote decisions contrary to that taken by the majority shareholder), the personal goals of the dominant owners may deviate with respect to the minority shareholders maximizing objective.

## 5. Concluding Remarks

This study empirically examined the relationship between ownership and control discrepancy of the largest shareholder and dividend payout using a panel of Tunisian corporate firms during 1998-2007. We advocate the use of Banzhaf index as a relevant measure of voting power during analysis of control rights.

Due to divergence between cash flow rights and control rights, the conflict between large and controlling owner and small outside shareholders is one of the main issues in corporate governance literature. We find that the OWCONT ratio is one of the important variables which influences dividend payout policies. As the largest shareholder holds a degree of control (measured by Banzhaf index) that exceeds his ownership (measured by his fraction of shares), firms tend to pay fewer dividends. In contrast, firms with multiple large shareholders that share control pay often a higher dividend payout ratio. We interpret these results as evidence that the dominant owner extract rents from firms and that strong other shareholders can prevent this behaviour.

Furthermore, our results show that free cash flow, cost of debt and profitability influence Tunisian firms' dividend policy. As suggested by Jensen (1986) and Kowalewski *et al.* (2007), firms pay higher dividend when they have important free cash flow and achieve high profitability. However, they avoid a large distribution when debtholders require a high interest rate. In sum, our findings indicate that dividend policy is not irrelevant as argued by Miller and Modigliani (1961), but rather is a response for the preference of large shareholders (Barclay *et al.* 2009). Our analysis would have been more interesting if the effect of other class equity (dual class stock, stocks pyramids) are considered but the lack of information ensures that we leave this challenging question for future work and for other stakeholder-oriented governance regimes.

## References

- Baltagi, B. H. (2005). *Econometric analysis of panel data*. (3rd ed.). Chichester: John Wiley & Sons.
- Banzhaf J. F. (1965). Weighted voting doesn't work: A Mathematical analysis. *Rutgers Law Review*, 19, 317-343.
- Barca F., & Becht M. (2002). The control of corporate Europe. *Corporate Governance*, 10(3), 246-248. <http://dx.doi.org/10.1111/1467-8683.t01-1-00287>
- Barclay M. J., Holderness C. G., & Sheehan D. P. (2009). Dividends and Corporate Shareholders. *The of Financial Studies*, 22(6), 2423-2455. <http://dx.doi.org/10.1093/rfs/hhn060>
- Baulkaran V. (2009). Concentrated Control, Agency Problems and Dividend Policy. *Working paper*. [Online] Available: [http://www.wlu.ca/documents/38743/Concentrated\\_agency\\_problems.pdf](http://www.wlu.ca/documents/38743/Concentrated_agency_problems.pdf).
- Bebchuk L., R Kraakman & G Triantis. (2000). Stock pyramids, cross-ownership, and dual class equity: the creation of agency costs of separating control from cash flow rights. [Online] Available: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=147590](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=147590).
- Bena, J., & Hanousek, J. (2008). Rent extraction by large shareholders: Evidence using dividend policy in the Czech Republic Finance a úvěr: Czech. *Journal of Economics and Finance*, 58(3), 106-130.
- Berle A., & Means G. (1932). *The modern corporation and private property*. McMillan: New York.
- Burkart M. & Lee S. (2008). One Share-One Vote: the Theory. *Review of Finance*, 12, 1-49. <http://dx.doi.org/10.1093/rof/rfm035>
- Chen, Z., Cheung, Y., Stouraitis, A., & Wong, A. (2005). Ownership concentration, firm performance and dividend policy in Hong Kong. *Pacific-Basin Finance Journal*, 13, 431-449. <http://dx.doi.org/10.1016/j.pacfin.2004.12.001>
- Claessens, S. S., Djankov, & L. Lang (2000). Expropriation of shareholders in East Asia. *Journal of financial Economics*, 58(8), 81-112. [http://dx.doi.org/10.1016/S0304-405X\(00\)00067-2](http://dx.doi.org/10.1016/S0304-405X(00)00067-2)
- Claessens S., Djankov S., Fan J., & L. Lang. (2002). Disentangling the incentive and entrenchment effects of large shareholders. *Journal of Finance*, 57, 2741-2771. <http://dx.doi.org/10.1111/1540-6261.00511>
- Crama Y., Leruth L., Renneboog L., & Urbain J. P. (2003). *Corporate control concentration measurement and firm performance*. Amsterdam: Elsevier Science.
- Crespi R., & Renneboog L. (2003). Corporate monitoring by shareholder coalitions in the UK. [Online] Available: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=379124](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=379124).



- Cronqvist H., & M Nilsson. (2003). Agency costs of controlling minority shareholders. *Journal of Financial and Quantitative Analysis*, 38, 695-719. <http://dx.doi.org/10.2307/4126740>
- Nilsson, M. (2002). Agency costs of controlling shareholders, Essays in Empirical Corporate Finance and Governance. Stockholm School of Economics. Doctoral thesis. [Online] available: <http://urn.kb.se/resolve?urn=urn:nbn:se:hhs:diva-587>.
- De. Cesari A. (2010). Expropriation of minority shareholders and payout. [Online] available: [http://www.efmaefm.org/0EFMAMEETINGS/.../EFMA2010\\_0381\\_fullpaper.pdf](http://www.efmaefm.org/0EFMAMEETINGS/.../EFMA2010_0381_fullpaper.pdf).
- Easterbrook, F. H. (1984). Two agency-cost Explanation of Dividends. *American Economic review*, 74, 650-659.
- Faccio, M., Larry H. P Lang & L.Young. (2001). Dividend and Expropriation. *American Economic Review*, 91, 54-78. <http://dx.doi.org/10.1257/aer.91.1.54>
- Faccio M., & L. Lang. (2002). The ultimate ownership in western European corporations. *Journal of Financial Economics*, 65, 365-395. [http://dx.doi.org/10.1016/S0304-405X\(02\)00146-0](http://dx.doi.org/10.1016/S0304-405X(02)00146-0)
- Gomes, A., & W. Novaes. (2001). Sharing of control as corporate governance mechanism. CARESS working paper, 01-06, Wharton School and University of Washington. [Online] Available: <http://www.econ.upenn.edu/system/files/01-029.pdf>.
- Gompers, P. A., Ishii, J., & Metrick, A. (2007). Extreme Governance: An Analysis of Dual-class Firms in the United States. Harvard Business School, Stanford [Online] Available: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.151.4763>
- Grossman S., & Hart O. (1980). Takeover bids, the free-rider problem, and the theory of the corporation. *Bell Journal of Economics*, 11, 42-64. <http://dx.doi.org/10.2307/3003400>
- Grossman, S. J., & O. D. Hart. (1988). One Share-One Vote and the Market for Corporate Control. *Journal of Financial Economics*, 20, 175-202. [http://dx.doi.org/10.1016/0304-405X\(88\)90044-X](http://dx.doi.org/10.1016/0304-405X(88)90044-X)
- Gugler, K., & B. Yurtoglu. (2003). corporate governance and dividend pay-out policy in Germany. Working paper, University of Vienna. [online] Available: [http://homepage.univie.ac.at/Dennis.Mueller/eer\\_gy.pdf](http://homepage.univie.ac.at/Dennis.Mueller/eer_gy.pdf).
- Guizani M, E. Abaoub, & M. Kouki. (2008). Shareholder coalitions, voting power, and dividend policy: New evidence from Tunisia. *Corporate Ownership and Control*, 6(1), 433-442.
- Harris, M., & A. Raviv. (1988). Corporate Control Contests and Capital Structure. *Journal of Financial Economics*, 20(1-2), 55-86. [http://dx.doi.org/10.1016/0304-405X\(88\)90040-2](http://dx.doi.org/10.1016/0304-405X(88)90040-2)
- Holderness, C. G., & D. P. Sheehan. (2000). Constraints on Large-Block Shareholders, in Concentrated Corporate Ownership. Edited by Randall A. Morck, NBER, University of Chicago Press.[Online] Available: <http://www.nber.org/chapters/c9008.pdf>.
- How J. C.Y, P. Verhoeven, & C. L. Wu. (2008). dividends and expropriation in hong kong. *Asian academy of management journal of accounting and finance*, 4(1), 71-85.
- Jensen, M. (1986). Agency costs of Free cash-flow, corporate finance and Takeovers. *American Economic Review*, 76, 323-329.
- Jensen, M., & W. Meckling. (1976). theory of the firm: Managerial behaviour, Agency costs and ownership structure. *journal of financial economics*, 3, 305-360. [http://dx.doi.org/10.1016/0304-405X\(76\)90026-X](http://dx.doi.org/10.1016/0304-405X(76)90026-X)
- Jensen, G. R, D. P. Solbery, & T. S. Zorn. (1992). Simultaneous Determination of Insider ownership, debt and dividend policies. *Journal of Financial and quantitative Analysis*, 27, 247-263. <http://dx.doi.org/10.2307/2331370>
- Johnson S, La Porta R, Lopez-De-Silanes, Shleifer A., & Vishny R. (2000). Tunneling. *American Economic Review Papers and Proceedings*, 22-27.
- Jong A. D., D. V. DeJong, U. Hege, & G. Mertens. (2011). Leverage in Pyramids: When Debt Leads To Higher Dividends. ECGI's Working Papers. [Online] Available: [https://www.ifk-cfs.de/fileadmin/2011-07-01-de\\_Jong\\_et\\_al.pdf?](https://www.ifk-cfs.de/fileadmin/2011-07-01-de_Jong_et_al.pdf?)
- Kalay, A. (1982). Stockholder-Bondholder conflict and dividend constraints. *Journal of financial economics*, 10, 211-233. [http://dx.doi.org/10.1016/0304-405X\(82\)90014-9](http://dx.doi.org/10.1016/0304-405X(82)90014-9)
- Kouki M., & Guizani M. (2009). Pouvoir de vote des actionnaires et politique de dividende: Étude empirique sur les entreprises Tunisiennes cotées. *Revue du financier, Numéro*, 178-179.

- Kowalewski O., I Stetsyuk, & O Talaver. (2007). Do corporate governance and ownership determine dividend policy in Poland. *Financial Market and Institutions*, 60-86. [Online] Available: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1133013](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1133013).
- Leech D. (1988). The relationship between shareholding concentration and shareholder voting power in British companies: a study of the application of power indices for simple games. *Management Science*, 134(4). <http://dx.doi.org/10.1287/mnsc.34.4.5.509>
- La Porta, R, F . Lopez –De- Silanes, & A. Shleifer. (1999). Corporate ownership around the world. *Journal of finance*, 54, 471-517. <http://dx.doi.org/10.1111/0022-1082.00115>
- La Porta, R .F., Lopez-De-Silanes, A.Shleifer, & R. W.Vishny. (2000). Agency problems and dividend policies around the world. *Journal of finance*, 55, 1-33. <http://dx.doi.org/10.1111/0022-1082.00199>
- La Porta, R., F. Lopez-de-Silanes, A., Shleifer, & R.W. Vishn. (2002). Investor protection and corporate valuation. *Journal of Finance*, 57, 1147-1170. <http://dx.doi.org/10.1111/1540-6261.00457>.
- Mancinelli, L., & Ozkan, A., (2006), Ownership structure and dividend policy: Evidence from Italian firms. *The European Journal of Finance*, 12, 265-282. <http://dx.doi.org/10.1080/13518470500249365>
- Masulis, R.W., Wang, C., & Xie, F. (2009). Agency problems at dual class companies. *Journal of Finance*, 64, 1697-1727. <http://dx.doi.org/10.1111/j.1540-6261.2009.01477.x>
- Maury C. B., & A. Pajuste. (2002). Controlling shareholders, Agency problems, and dividend policy in Finland. Working paper, swedish school of Economics and Business Administration. [Online] Available: [http://lta.hse.fi/2002/1/lta\\_2002\\_01\\_a1.pdf](http://lta.hse.fi/2002/1/lta_2002_01_a1.pdf).
- Maury C. B., & A. Pajuste. (2010). Private benefits of control and dual-class share unifications. [Online] Available: [http://www.hanken.fi/staff/maury/blog/files/Unification\\_paper.pdf](http://www.hanken.fi/staff/maury/blog/files/Unification_paper.pdf).
- Miller M. H., & F. Modigliani. (1961). Dividend policy, Growth, and the valuation of shares. *Journal of Business*, 34, 411-433. <http://dx.doi.org/10.1086/294442>
- Miller M., & Rock K. (1985). Dividend policy under asymmetric information. *Journal of Finance*, 40, 1031-1051. <http://dx.doi.org/10.2307/2328393>
- Mollah A. S., K. Keasey, & H. Short (2000). The influence of Agency costs on dividend policy in an emerging market: Evidence from the Dhaka stock Exchange. Working paper, Leeds university Business school.
- Rozeff, M. (1982). Growth, Beta and agency Costa as Determinants of Dividend payout Ratios. *Journal of financial Research*, 5, 249-259.
- Shleifer, A., & R. Vishny. (1997). A survey of corporate Governance. *Journal of Finance*, 52, 737-783. <http://dx.doi.org/10.2307/2329497>
- Smith, C. W., & Watts. (1992). The Investment opportunity Set and corporate Financing, Dividend and compensation policies. *Journal of Financial Economics*, 32, 263-292. [http://dx.doi.org/10.1016/0304-405X\(92\)90029-W](http://dx.doi.org/10.1016/0304-405X(92)90029-W)
- Trojanowski G. (2004). Ownership structure and payout policy in the UK. Working paper, Tilburg University. [Online] Available: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=498023](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=498023).
- Trojanowski .G., & L. Renneboog. (2005). Control Structures and Payout Policy. [Online] Available: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=707421](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=707421).
- Truong T., & R. Heaney. (2007). Largest shareholder and dividend policy around the world. *The Quarterly Review of Economics and Finance*, 47, 667–687. <http://dx.doi.org/10.1016/j.qref.2007.09.002>

Table 1. Summary statistics for pooled sample (440 firm-years)

Variables	Mean	St.dev.	Min.	Max.
Payout	0.50	0.29	0	1.79
FCF	0.15	0.16	-0.03	0.99
Growth	0.11	0.28	-0.24	4.31
KDebt	0.07	0.12	0.04	0.12
ROA	0.05	0.06	-0.21	0.34
Bz1 (control)	0.76	0.27	0.26	1
OW1 (ownership)	0.46	0.22	0.11	0.90
OWCONT	0.61	0.20	0.22	1.03

Table 2. The influence of ownership-control discrepancy on dividend payout (Random effect model)

Variables	Estimate	z-statistic	[95% conf. interval]	
Constant	0.50	3.65***	0.2307	0.7674
FCF	0.24	2.09**	0.0144	0.4581
Growth	-0.06	-1.41	-0.1423	0.0233
KDebt	-2.66	-1.85*	-5.4693	0.1542
ROA	0.59	2.14**	0.0501	1.1211
OWCONT	0.22	1.85*	-0.0129	0.4549
Nb. of obs.	440			
Wald test	22.63***			
Hausman test	4.84			
Breusch-Pagan test	137.64***			
R2 between	27.5%			

\*, \*\*, \*\*\* denotes significant at the 10%, 5% and 1% level, respectively.

Table 3. Groups of firms according to ownership and control of the largest shareholder.

Group	Frequency	Number of obs.	Percentage (%)
OW1 (+50%), BZ1 (+50%) : MAJ	17	170	38.64%
OW1 (-50%), BZ1 (+50%) : CMS	12	120	27.27%
OW1 (-50%), BZ1 (-50%) : SHARE	15	150	34.09%
Total	44	440	100%

Table 4. Panel A: descriptive statistics of payout ratio by group.

Group	Mean	Std.dev	Min.	Max.
MAJ	0.467	0.28	0	1.12
CMS	0.452	0.31	0	1.79
SHARE	0.573	0.27	0	1.23

Table 4. Panel B: t-test of payout ratio between groups

Groups	Mean differences	Student-t
MAJ - CMS	0.015	0.44
MAJ - SHARE	-0.106	(-3.44)***
CMS - SHARE	-0.121	(-3.43)***

\*\*\*, significant at 1%.

Table 5. Descriptive statistics of each class of shareholder

Variables	SHARE		CMS		MAJ	
	Mean	Std.dev	Mean	Std.dev	Mean	Std.dev
Payout	0.57	0.30	0.50	0.23	0.48	0.30
FCF	0.08	0.08	0.14	0.15	0.14	0.15
Growth	0.17	0.49	0.13	0.19	0.12	0.20
KDebt	0.067	0.10	0.072	0.11	0.07	0.13
ROA	0.055	0.07	0.045	0.065	0.052	0.055
Bz1	0.40	0.09	0.80	0.20	0.98	0.07
OW1	0.28	0.10	0.34	0.08	0.66	0.12

Table 6. Effect of voting power of the largest shareholder for each class of ownership-control

	SHARE		CMS		MAJ	
	Coefficient	t-student	Coefficient	t-student	Coefficient	t-student
Constant	1.43	(2.99)***	1.41	(3.07)***	1.75	(3.26)***
FCF	0.63	(1.77)*	0.02	0.10	1.02	(5.92)***
Growth	-0.07	-1.22	-0.25	(-2.35)**	-0.08	-0.62
KDebt	-2.06	(-1.63)*	-2.98	(-1.95)*	(-2.46)	(-1.79)*
ROA	0.75	(2.36)**	0.42	(2.08)**	0.48	(2.25)**
Bz1	0.07	0.21	-0.22	(-1.75)*	-0.70	(-1.81)*
Adjusted R <sup>2</sup>	17.57%		24.60%		36.42%	
Fisher statistic	(5.05)***		(7.27)**		(12.11)***	
Number observ	150		120		170	

\*, \*\*, \*\*\* denotes significant at the 10%, 5% and 1% level, respectively.

#### Appendix: Computation of Banzhaf values

Consider a company with the following ownership structure and control rights:

Table 7. Example of ownership structure and control rights:

Shareholder	Legal voting rights(one share = one vote)
A	25%
B	18%
C	12%
D	10%
Dispersed	35%

Shareholders have to vote "yes" or "no". Assume that dispersed is a continuum of infinitesimal players, quota  $q$  is equal to  $(1 - 0.35)/2 = 32.5\%$ . Thus a coalition with voting rights more than 32.5% appears powerful in a corporate decision process.

We have developed an algorithm that helps us compute the Banzhaf indices (Yes = 1; No = 0 and the outcome = refused or accepted)

Table 8. Algorithm Details.

A	B	C	D	Sum of voting rights	Outcome
0	0	0	0	0%	Refused
1	0	0	0	25%	Refused
0	1	0	0	18%	Refused
1	1	0	0	43%	Accepted
0	0	1	0	12%	Refused
1	0	1	0	37%	Accepted
0	1	1	0	30%	Refused
1	1	1	0	55%	Accepted
0	0	0	1	10%	Refused
1	0	0	1	35%	Accepted
0	1	0	1	28%	Refused
1	1	0	1	53%	Accepted
0	0	1	1	22%	Refused
1	0	1	1	47%	Accepted
0	1	1	1	40%	Accepted
1	1	1	1	65%	Accepted

Results:

Number of possible strings = 6.

Number of swings for (A) = 6.

Number of swings for (B) = 2.

Number of swings for (C) = 2.

Number of swings for (D) = 2.

Total number of swings = 12.

BZ index (A) =  $(6/12) = 0.5$ .

BZ index (B), (C) and (D) =  $(2/12) = 0.166$ .

# Is Amman Stock Exchange an Efficient Market?

Sameer Elbarghouthi

Al-Zaytoonah University of Jordan, Department of Accounting, Jordan

E-mail: samabr2002@yahoo.com

Mohammed Yassin

Al-Zaytoonah University of Jordan, Department of Accounting, Jordan

E-mail: mmmmy1974@yahoo.com

Amer Qasim

American University of Madaba, Department of Accounting, Jordan

E-mail: a.qasim@aum.edu.jo

Received: October 5, 2011

Accepted: November 23, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p140

URL: <http://dx.doi.org/10.5539/ibr.v5n1p140>

## Abstract

Recent econometric procedures are employed in this paper to investigate the behavioural properties of Amman Stock Exchange (ASE) indices. Box-Jenkins estimation, irrespective of the index examined, produced different models with a high prediction performance, violating the EMH conditions. The unit-root test also confirmed these results since the return series for all indices did not exhibit unit root, and all processes were stationary.

**Keywords:** Market efficiency, Box-Jenkins Estimation, Stationary and Random Walk Tests, Amman Stock Exchange.

## 1. Introduction

Efficiency, in the context of capital markets, is commonly assumed to refer to the incorporation of the expectation and information of all market participants into the prices of financial assets. If markets are sufficiently competitive, and therefore efficient, then microeconomic theory states that investors cannot earn abnormal profits from their investment strategies. This concept of an efficient capital market has been continuously developed, studied, tested and challenged ever since the French mathematician Bachelier introduced the notion in his PhD thesis in 1900. In his work, Bachelier recognized that “past, present and even discounted future events are reflected in market price, but often show no apparent relation to price changes”. He concluded that commodity prices fluctuate randomly, which was empirically supported by Cowles (1933), however largely ignored until Cootner (1964) published Bachelier’s contribution in English. The introduction of electronic computers into time series research in the 1950’s enabled economists to analyze the behavior of lengthy economic time series, fueling research on the topic of efficient markets. Samuelson (1965) expanded on Bachelier’s theory in his article “Proof that Properly Anticipated Prices Fluctuate Randomly.” This work, considered the beginning of modern economic literature, asserts that “if one could be sure that a price would rise, it would have already risen” and explains changes in price with the random walk model.

### 1.1 Random Walk Model

Although the origins of the random walk model began with Bachelier (1900) explained a random walk with an analogy to a drunk who staggers in an unpredictable and random fashion. The drunk is just as likely to end up where he began his stagger as at any other point.

### 1.2 Efficient Market Hypothesis

Widely acknowledged today, the *Efficient Market Hypothesis* (EMH) is a historical compilation of work, which begins with Bachelier’s foundations. The EMH has historically been subdivided into three categories as follows:

Weak form efficiency: Prices fully reflect historical information of past prices and returns.

Semi-strong form efficiency: Prices fully reflect all information known to all market participants (public information).

Strong form efficiency: Prices fully reflect all information known to any market participant (public and private information). From this idea of information sets, Fama (1970) assembled a comprehensive review of theoretical and empirical evidence of market efficiency in which he deems an efficient market as “a market in which prices always ‘fully reflect’ available information.”

In an efficient market, trading on available information fails to provide an abnormal return. In order to prove or disprove the EMH, a model of “normal” returns must be specified against which the actual returns can be compared. Abnormal returns, the difference between the return on a security and its expected return, are forecasted using the chosen information set. If abnormal returns are found to be unforecastable or “random”, the EMH is not rejected. To clarify, abnormal returns should not be confused with excess returns, which are defined as the difference between the actual return and the risk-free rate. Implicit to the EMH is the precondition that the cost of information acquisition and trading are equal to zero. However, these costs are clearly positive, driving Fama (1991) to revise his definition of the EMH to a weaker and economically more sensible version stating “prices reflect information to the point where the marginal benefits of acting on information (the profits to be made) do not exceed marginal costs.” Most recently, Fama (1998) modified his definition once again, an adjustment which spawned from the growing body of empirical research of all three forms of the EMH. This definition states that in an efficient market “the expected value of abnormal returns is zero, but chance generates deviations from zero (anomalies) in both directions.”

### *1.3 Literature Review*

Emerging stock markets have recently attracted increasing attention from both researchers and investors. The great interest is not surprising because during early nineties growth of emerging markets are remarkable. Besides its phenomenal growth, emerging market attracts their low correlation with major developed stock markets, and also stock returns in many emerging markets are noticeable more predictable than developed stock markets because of exhibiting systematic patterns.

El-Erian and Kumar (1995) found some departures from weak-form efficiency in Middle Eastern stock markets, but emphasise the serial dependence is sufficiently weak that it likely has little value in predicting future prices. Their finding is consistent with that of Butler and Malaikah (1992), who found statistically significant autocorrelation in the stock markets of Kuwait and Saudi Arabia. Nourrendine and Kababa (1998) has also examined the behavior of stock prices in the Saudi Financial Market, seeking evidence for weak-form efficiency, but found that the market is not weak-form efficient. Poshakwale (1996) investigated the weak form efficiency and the day of week effect in the Bombay Stock Exchange using runs test and serial correlation coefficient tests. The results of runs test and serial correlation coefficient tests indicate a nonrandom nature of the series and, therefore, violation of weak form efficiency in the BSE. The other null hypothesis that there is no difference between the returns achieved on different days of the week is also rejected as there is clear evidence that the average returns are different on each day of the week. Mobarek (2000) examined the weak-form efficiency in Dhaka Stock Exchange using the daily price indices of all the listed securities on the DSE for the period 1988 to 1997. The results of both non-parametric tests (Kolmogorov –Smirnov normality test and run test) and parametric tests ( Auto-correlation test, Auto-regression, ARIMA model ) provided evidence that the share return series do not follow the random walk model, and the significant autocorrelation co-efficient at different lags reject the null hypothesis of weak-form efficiency.

Moustafa (2004) examines the behavior of stock prices in the United Arab Emirates (UAE) stock market using daily prices of 43 stocks included in the UAE market index for the period October 2, 2001 to September 1, 2003. He finds that the returns of the 43 stocks do not follow normal distribution. However, the results of runs tests show that the returns of 40 stocks out of the 43 are random at 5% level of significance. Although the UAE stock market is newly developed and it is still very small, also suffering from infrequent trading, according to his results, the UAE is found to be weak-form efficient.

Pandey (2003) analysed the efficiency of the Indian stock markets by using three Indian stock indices to test the efficiency level in Indian stock market and the random walk nature of the stock market by using the runs test and the Auto Correlation Function ACF (K) for the period from January 1996 to June 2002. The study found that the series of stock indices in the Indian stock market biased the random time series and do not confirming the Random Walk Theory.

Sharma et al. (2009) examined the weak-form efficiency of eleven (11) securities listed on the BSE using weekly data from July 2007 to October 2007 by employing runs test and auto-correlation tests. The study concludes that the BSE is weak-form efficient and the stock prices are having very scrimpy effect on future prices which implies that an investor cannot reap out abnormal profits as the current share prices already reflect the effect of past share prices.

Pradhan et al. (2009) in their paper tried to examine the Efficient Market Hypothesis (EMH) in its weak - form by employing the unit root test on the sample of daily stock returns of National Stock Exchange (NSE) and Bombay

Stock Exchange (BSE). The sample period lies between Jan.2007 to Jul.2009. The study reveals that Indian Stock market is not weak - form efficient.

Worthington and Higgs (2004) find that Germany and Netherlands are weak form efficient under both serial correlation and runs tests, while Ireland, Portugal and the United Kingdom are efficient under one test or the other. Thus, rests of the markets do not follow a random walk

Tas and Dursonoglu (2005) have confirmed the inefficiency result for Turkey using daily stock returns of ISE 30 indices from the period 1995 to 2004. Dickey-Fuller unit root and runs tests were used in their studies and the results of both tests reject random walk hypothesis in ISE.

Akinkugbe (2005) finds stock markets in Botswana to be weak and semi-strong form efficient. His data includes 738 weekly observations for the period June 1989 to December 2003. Autocorrelation, and Augmented Dickey-Fuller and Phillip-Perron unit root tests were used to investigate the weak form of EMH in Botswana stock exchange. In his study, autocorrelation test show evidence of no serial correlation and the results of both unit root tests indicate a stationary process for stock returns, therefore implying weak-form efficiency.

Using the serial correlation, runs and unit root tests Abeysekera (2001) indicates that the Colombo Stock Exchange (CSE) in Sri Lanka is weak-form inefficient. His data include daily, weekly and monthly returns of the Sensitive Share Index (based on market prices of 24 blue-chip companies listed on the CSE) and a 40-security value weighted index for the period January 1991 to November 1996. The results of three tests consistently reject the random walk hypothesis.

(Abraham et al. 2002) they all use variance ratio tests and runs test on the financial data of different countries for testing random walk hypothesis and found weak form efficient these markets are and follow a random walk.

Hassan et al. (2006) conduct a test of efficiency in seven European emerging stock markets. They use International Finance Corporation's weekly stock index data for the period December 1988 through August 2002. Several methods used in their studies including Ljung-Box Q-statistic, runs, and variance ratio tests. According to their results, except Greece, Slovakia, and Turkey, markets in Czech Republic, Hungary, Poland and Russia are found to be unpredictable.

Dragotă et al. (2009) analyze the returns of 18 stocks listed at the BSE first category and of the Romanian capital market indices. 11 the stocks and indices are monitored from their listing (respectively the indexes construction) date to the end of 2006. Dragotă et al. (2009) focus on the weak form efficiency, according to which all of the past prices information is incorporated into the current price and, consequently, there could not be obtained systematic abnormal returns based on historical information on prices. The investigation on the weak form of the efficient market hypothesis is based on the following tests of the random walk hypothesis: the Cowels-Jones test, the runs test and the Multiple Variance Ratio – MVR – approach.

Filis (2006) tested the efficiency level of ASE by performing several tests for the period 2000-2002. These include unit roots (ADF) runs and GARCH effects tests. Furthermore he used the Wilcoxon Signed Rank test for the equality of implied versus historic volatility. He rejected the semi-strong form of efficiency as he found evidence of volatility clustering whereas he accepted the weak form as he found that the returns for this period followed a random walk.

Briefly, the previous studies cannot support or contradict the weak form efficiency in emerging markets. Much work must be conducted to investigate price dynamics in emerging markets. It is interesting to find if ASE is weak-form efficient and to what extent, and to explore the return generating process by using serial correlation and runs tests.

#### *1.4 Data*

Data tested comprised of the daily prices of the five indices in ASE from 1<sup>st</sup> January 2000 to 31<sup>st</sup> December 2008.

### **2. Box – Jenkins Estimation**

The Box-Jenkins method of forecasting uses an iterative approach. A number of competing models are identified and estimated through following the next five steps, then the simplest (the one with the smallest number of parameters) and most well performed of these models is selected (Refer also to Appendix 4).

- The first step is to difference the prices series of the indices in order to get stationarity (autocorrelation for price levels indicates non-stationarity). The price changes (first differences of price levels) are more likely to be stationary and hence are investigated (more details for stationarity is presented in Section 6.3).
- The second step is to examine the autocorrelation function (AC) and partial autocorrelation function (PAC) of the data in order to identify the appropriate orders of the AR and MA components. If the autocorrelation function dies off smoothly at a geometric rate, and the partial autocorrelations were zero after one lag, then a first-order autoregressive



model would be suggested. Alternatively, if the autocorrelations were zero after one lag and the partial autocorrelations declined geometrically, a first-order moving average process would come to mind (Madala, 2001).

- The third step is the estimation of the ARMA model. Different forms of ARMA model are investigated; and in order to test the significance of the estimated parameters,  $t$  ratios are applied. If higher orders of the estimated parameter prove to be insignificant, then the significant lower order is considered adequate to describe the process. Insignificant parameters are dropped from the model. The randomness of the residuals of the estimated models is then examined. Hence, the disturbance term must be random if the model is correctly specified. The Akaike Information Criterion (AIC) and the Schwartz Bayesian Criterion (SBC) are used to decide the order of the model by choosing the model which has the minimum AIC and SBC (Refer to Appendix 4). The Ljung Box Q-statistics test for autocorrelated disturbances was also applied; these show that the residuals for the chosen models are uncorrelated. On the other hand, the ARCH LM test indicates heteroscedasticity in the disturbance and a strong ARCH effect in all models. Changes in variance also, referred to as conditional heteroscedasticity or stochastic volatility, can be attributed to variations in the amount and importance of relevant price information. This issue will be investigated in more detail in Section 6.4. The final step is to evaluate the forecast performance of the model (The Theil Inequality Coefficient is used for this purpose).

### 2.1 Empirical Results

The AC and the PAC of the price changes are listed in Table (1) (see appendix 1). As shown in the table, the autocorrelation function, for the all indices, seems to be dead after 1 (or 2) lags, and the partial autocorrelations were close to zero after one or two lag. These results suggest a first or second order autoregressive model. Table (1-2) lists the most suitable ARMR models that describe the price changes for each index.

#### 2.1.1 Prediction Validity for the Models

Theil's inequality coefficient ( $U$ ) measures the prediction accuracy of a model. Theil's inequality coefficient ( $U$ ) can be calculated through the following equation (Theil, 1970; Farnum and Stanton, 1989):

$$U = \left( \frac{\sum_{t=1}^T \left( \frac{\hat{y}_t - y_t}{y_{t-1}} \right)^2}{\sum_{t=1}^T \left( \frac{y_t - y_{t-1}}{y_{t-1}} \right)^2} \right)^{0.5}, \quad 0 \leq U \leq 1 \quad (1)$$

$\hat{y}_t$ : predicted value of endogenous variable  $y$  at time  $t$  (observation  $t$  of  $y$ ).

$y_t$ : Actual value of endogenous variable  $y$  at time  $t$  (observation  $t$  of  $y$ ).

$T$ : number of periods (observations) in the simulations (of the sample).

If  $U=0$ , then  $\hat{y}_t = y_t$  for all  $t$ , and there is a "perfect fit" between actual and predicted data. The closer the  $U$  value to 1, the weaker is the prediction of the model. Theil's inequality coefficient can be decomposed into the following proportions of inequality.

Bias proportion: indicates the systematic differences in actual and forecasted values.

$$U^M = \frac{\left( \frac{\bar{\hat{y}} - \bar{y}}{\bar{y}} \right)}{\frac{1}{T} \sum_{t=1}^T \left( \frac{\hat{y}_t - y_t}{y_t} \right)^2} \quad (2)$$

$\bar{y}, \bar{\hat{y}}$  are the means of the series  $y_t$  and  $\hat{y}_t$  respectively.

Variance proportion: indicates unequal variances of actual and forecasted values.

$$U^S = \frac{\left( \frac{\hat{\sigma} - \sigma}{\sigma} \right)^2}{\frac{1}{T} \sum_{t=1}^T \left( \frac{\hat{y}_t - y_t}{y_t} \right)^2} \quad (3)$$

$\sigma, \hat{\sigma}$  are the standard deviations of the series  $y_t$  and  $\hat{y}_t$  respectively.

Covariance proportion: indicates the correlation between the actual and forecasted values. (zero=perfect correlation between actual and forecasted values)

$$U^c = \frac{2(1-\rho)\hat{\sigma}\sigma}{\frac{1}{T} \sum_{t=1}^T (\hat{y}_t - y_t)^2} \quad (4)$$

$\rho$  is the correlation coefficient between  $y_t$  and  $\hat{y}_t$ , and

$$U^M + U^S + U^C = 1 \quad (5)$$

The proportions  $U^M$ ,  $U^S$ , and  $U^C$  are called the bias, variance, and covariance proportions respectively, and they are useful as a means of breaking the error (difference) down into three characteristic sources.

To test the prediction validity of the models, the models are estimated using the first 2000 observations, then a period of 300 observations ahead is forecasted, and the result in the forecast period is evaluated by using the Theil Inequality Coefficient. Theil Inequality Coefficient is 0 for a perfect forecast and 1 for a naïve static forecast, so under the EMH the coefficient is 1. Since the coefficient is less than 1 and close to 0 for all models, as shown in Table 6-2, the estimated ARMA models explain price changes better than the random walk model. The bias proportion indicates how far the mean of the forecast is from the mean of the actual series, and the variance proportion indicates how far the variation of the forecast is from the variation of the actual series. If the forecast is good, the bias and variance proportions should be small so that most of the bias should be concentrated on the covariance proportions. Empirically, for all models, the bias and variance proportion is small, indicating that bias is indeed concentrated in the covariance proportion.

These results are also consistent with the findings of Nourredine and Khaba (1998), Roux and Gilberson (1978) and Poshakwale (1996) who found evidence of non-randomness in stock price behaviour and market inefficiency (not weak-form efficient) in the Saudi Arabian Financial Market, Johannesburg Stock Exchange and the Indian Market. In conclusion, the results add to the weight of evidence that emerging markets are not weak-form efficient.

## 2.2 Stationary and Random Walk Tests

Generally speaking, many econometric problems can arise from non-stationarity (Greene, 1997). Granger and Newbold (1974) concluded that if macroeconomic data were integrated, then a regression involving the levels of such data has usually misleading standard significance tests. For example, the conventional  $t$  and  $F$  tests might incorrectly reject the null hypothesis of the regression, leading to spurious regression. Therefore, economic variables such as stock prices or returns should be modified before using in regression analysis.

The random walk model is:

$$X_t = X_{t-1} + \varepsilon_t \quad (6)$$

And the random walk with drift is:

$$X_t = \alpha + X_{t-1} + \varepsilon_t \quad (7)$$

And the trend stationary process is:

$$X_t = \alpha + \beta t + \varepsilon_t \quad (8)$$

Each of these three series is characterized by a unit root. Granger, Newbold and Phillip conclude that the use of data characterized by unit roots has the potential to lead to serious errors in inferences (Phillips and Perron, 1988; Davidson and MacKinnon, 1993).

However, an alternative test of the weak EMH (beside the serial correlation and runs tests) is based on the random-walk hypothesis (for prices) which is commonly associated with stationarity and a unit root, since the series must exhibit a unit root (non-stationarity) if it is a random walk.

Using,

$$R_t = \ln(P_t) - \ln(P_{t-1}) \quad (9)$$

Where  $P$  is the price index, the weak EMH implies, that the log of the price is generated by the following process:

$$\ln(P_t) = \beta_0 + \ln(P_{t-1}) + \varepsilon_t \quad (10)$$

Which is a random walk with drift in the process generating  $\ln(P_t)$ . This implies that the  $\ln(P_t)$  process has a unit root, an implication which may be tested using standard tests for a unit root in  $\ln(P_t)$ .

### 2.2.1 Tests for Unit Roots

In order to check the existence of a unit root, the Augmented Dickey-Fuller (ADF) statistic is employed. The test was developed by Dickey and Fuller (1979).

Considering an AR(1) process with an intercept  $\alpha$ :

$$X_t = \alpha + \phi X_{t-1} + \varepsilon_t \quad (11)$$

Where  $\alpha$  and  $\phi$  are parameters and the  $\varepsilon_t$  are assumed to be independently and identically distributed with a zero mean and an equal variance. When  $-1 < \phi < 1$ , the process AR(1) is stationary, and if  $\phi = 1$ , then the process is non-stationary and the series is a random walk with drift. The OLS is applied to (11) to obtain  $\hat{\phi}$ , the estimate of  $\phi$ , and then a  $t$ -test is performed for the null hypothesis  $H_0 : \phi = 1$  against the alternative hypothesis  $H_A : \phi < 1$ . Rejection of the null hypothesis implies stationary series. Some problems arise in such a procedure. First, the OLS estimator  $\hat{\phi}$  is biased downwards in small samples, since there is a lagged dependent variable in (11), which poses a risk of concluding that  $-1 < \phi < 1$  and that  $X_t$  is stationary when it is not. Second, if the process is non-stationary, then standard large-sample distribution results are invalid. In order to apply the unit-root test, (11) is rewritten by taking  $X_{t-1}$  from each side:

$$\Delta X_t = \alpha + \phi^* X_{t-1} + \varepsilon_t \quad (12)$$

$$\phi^* = \phi - 1 \quad (13)$$

According to (12) non-stationarity is rejected ( $\phi^* = 0$ ) if the OLS estimate of  $\phi^*$  is sufficiently negative. Dickey and Fuller have performed extensive simulation studies to tabulate the large-sample distribution of the  $t$  ratio under the null hypothesis that  $\phi^* = 0$ . The  $t$  ratio is distributed not about zero because of a downward bias, as it would be if the OLS estimator were unbiased, but about a value that is less than zero (Hegazy, 1998).

As assumed in (11), the disturbance is a white noise and the equation is first order AR. If this is not a sensible assumption, the above Dickey – Fuller test is invalid in such circumstances. The Augmented Dickey-Fuller test, that modifies the actual testing procedure by generalizing equation (11) is used to test stationarity in such cases. By generalizing (11) into the  $r^{\text{th}}$  – order, then:

$$X_t = \alpha + \phi_1 X_{t-1} + \phi_2 X_{t-2} + \dots + \phi_r X_{t-r} + \varepsilon_t \quad (14)$$

Reparameterize (14) to obtain:

$$\Delta X_t = \alpha + \phi^* X_{t-1} + \phi_1^* \Delta X_{t-1} + \phi_2^* \Delta X_{t-2} + \dots + \phi_{r-1}^* \Delta X_{t-r+1} + \varepsilon_t \quad (15)$$

Where  $\phi^* = \phi_1 + \phi_2 + \dots + \phi_{r-1}$  and the other  $\phi_j^*$  are also functions of the original  $\phi_s$  in (14). As noticed, the regressor in the original equation (11) has been augmented by extra differenced terms in equation (14), and is written sometimes as ADF (k), where k is the number of differenced terms included on the right-hand side of (14). The question is what order of AR process best fits the time series under study to determine the differenced terms to be included on the right-hand side of (14). Usually, the differenced terms should be included up to the limit which produces non-autocorrelated OLS residuals. The LM tests for autocorrelation are usually used for this purpose.

Testing the  $r^{\text{th}}$  order process (14) for stationarity now is testing whether or not  $\phi^* = 0$  in (15). To test  $H_0 : \phi^* = 1$  the OLS is applied to (15) and the  $t$  ratio is examined using the critical  $t$  ratios table developed by Dickey-Fuller. If  $\phi^*$  is sufficiently negative, the  $H_0$  is rejected in favour of stationarity.

#### 2.2.1.1 Deterministic and Stochastic Trends

Two kinds of trends can appear in the process; deterministic or stochastic trends. Considering nesting the three models (16), (17), (18) in a single equation:

$$X_t = \alpha + \phi X_{t-1} + \beta t + \varepsilon_t, \quad \alpha \neq 0 \quad (16)$$

Where  $\varepsilon_t$  is a white noise and  $t$  a time trend. A stochastic trend appears if  $\phi = 1$  and  $\beta = 0$ . Then

$$\Delta X_t = \alpha + \varepsilon_t \quad (17)$$

$X_t$  trends upwards or downwards depending on the sign of  $\alpha$ . This kind of trend can be removed by first-differencing.  $X_t$  is then referred to as a difference stationary.

The deterministic trend appears if  $\phi = 0$  and  $\beta \neq 0$ . Then:

$$X_t = \alpha + \beta t + \varepsilon_t \quad (18)$$

$X_t$  trends upwards or downwards depending on the sign of  $\beta$ . This kind of trend cannot be removed by first-differencing, since  $t$  doesn't remove from the process.  $X_t$  is then referred to as a trend stationary process. Stochastic and deterministic trends are present if  $\phi = 1$  and  $\beta \neq 0$ . The previous ADF test tests only for the non-stationarity of a stochastic trend. Since both types of trends cause spurious regression problems, Dickey and Fuller suggest an F test to detect a deterministic trend, by rewriting (16) as:

$$X_t = \alpha + \phi^* X_{t-1} + \beta t + \varepsilon_t \quad (19)$$

Where  $\phi^* = \phi - 1$ . F-test is used to test the joint hypothesis  $\beta = \phi^* = 0$  (critical values of  $F$  obtained by Dickey – Fuller simulation experience since  $F$  statistic has a non-standard distribution under the null hypothesis of stochastic trend). Failure to reject this hypothesis would imply that  $X_t$  is subject to a stochastic trend only, with the absence of a deterministic trend. To test for a deterministic trend alone, the  $t$  ratio on the time trend in (19) can be examined using critical values of the  $t$  ratio provided by Dickey – Fuller simulation.

The unit root test with the exploration of time trend and drift for the series was applied as follows:

Estimation of the equation:

$$\Delta X_t = \alpha + \beta t + \phi^* X_{t-1} + \phi_1^* \Delta X_{t-1} + \phi_2^* \Delta X_{t-2} + \dots + \phi_{r-1}^* \Delta X_{t-r+1} + \varepsilon \quad (20)$$

To determine the order of differenced terms included in the equations in order to achieve ADF test, the serial correlation LM test is applied. If LM suggests autocorrelated residuals for the equation (19), then a higher AR process is tried and so on till the LM statistics are satisfactory. The serial correlation LM test is an alternative test for general serial correlation. It uses the Breusch-Godfrey large sample test for autocorrelated disturbances. After determining the sufficient number of lagged differences, the ADF test is applied to the series.

Testing the null hypothesis  $H_0 : (\alpha, \beta t, \phi^*) = (\alpha, 0, 0)$  against the alternative hypothesis  $H_A : (\alpha, \beta t, \phi^*) \neq (\alpha, 0, 0)$ , through the application of the Wald (coefficient restrictions) test by imposing zero coefficients on  $\beta t, \phi^*$ . The computed value ( $\Phi_1$ ) of the Wald test (F-statistic) was compared with the critical value taken from the Dickey and Fuller (1981) tables, which is 6.25 under 95% significance level. If the result accepts  $H_0$  (computed value of  $\Phi_1 < 6.25$ ), Path A is followed. If  $H_0$  is rejected, Path B is followed.

Path A: there is a unit root ( $\phi^* = 0$ ) with no trend ( $\beta t = 0$ ), with possible drift. To reinforce the inference that the series contains a unit root, the reported value of the  $t$ -statistic of the coefficient  $\phi^*$  must be smaller than the critical value obtained from the Dickey and Fuller (1981) tables. To investigate the presence of the drift component,  $\Phi_2$  is used to test  $H_0 : (\alpha, \beta t, \phi^*) = (0, 0, 0)$  against the alternative hypothesis  $H_A : (\alpha, \beta t, \phi^*) \neq (0, 0, 0)$ , the tabulated value for the F statistic of 4.68 from Dickey and Fuller (1981) tables was used. If  $H_0$  is rejected, then the series is a random walk with drift, otherwise, it is a random walk without drift. Then the equation (21) is estimated.

$$\Delta X_t = \alpha + \phi^* X_{t-1} + \phi_1^* \Delta X_{t-1} + \phi_2^* \Delta X_{t-2} + \dots + \phi_{r-1}^* \Delta X_{t-r+1} + \varepsilon \quad (21)$$

The F-test  $\Phi_3$  is used to test  $H_0 : (\alpha, \phi^*) = (0, 0)$  against  $H_A : (\alpha, \phi^*) \neq (0, 0)$  using the tabulated critical value for the F statistic of 4.59 from Dickey and Fuller (1981) tables. If  $H_0$  is rejected then the series is random walk with drift, otherwise, it is random walk without drift.

Path B: Either [ $\beta t \neq 0$  and  $\phi^* = 0$ ], [ $\beta t = 0$  and  $\phi^* \neq 0$ ] or [ $\beta t \neq 0$  and  $\phi^* \neq 0$ ]. To test if  $\phi^* = 0$ , the reported  $t$  statistic of  $\phi^*$  coefficient is compared with the critical value taken from the standard normal tables. If  $\phi^* = 0$  is rejected, then the series does not have a unit root and is considered stationary, otherwise it has a unit root. To test if  $\beta t = 0$ , the reported  $t$  statistic of the  $\beta t$  coefficient is compared with the critical value taken from the standard normal tables. If  $\beta t = 0$  is rejected, then the series has linear trend, otherwise it has no linear trend. To test if the intercept is zero, the  $t$  statistic test for  $\alpha$  is applied. If  $\alpha = 0$  then the series is without intercept. Otherwise, it has a non-zero drift.

### 2.2.2 Empirical Results

The unit root test was conducted first for the five price indices series, then to the five return series. The result in Table 3 shows that the computed values of  $\Phi_1$  for the general, bank, and insurance price indices are less than 6.25, implying a unit root. Analysing the calculated  $t$ -statistic of the coefficient  $\phi^*$  and comparing it with the critical values obtained from the Dickey and Fuller (1981) tables supports this conclusion. Additionally, the computed values of  $\Phi_2$  for the mentioned series are less than 4.68, implying the absence of a drift in these processes. Then (4.36) is estimated since  $\beta t = 0$  as inferred from the  $\Phi_1$  test. The  $\Phi_3$  values are also under the critical values, leading to the conclusion that the series are random walk without drift. From the sequence of these tests, the conclusion is that the three series contain a unit root but not a deterministic trend or a drift term.

For the industry and the service price indices, the values of  $\Phi_1$  is higher than 6.25 (even though the value is very close to 6.25 in the industry index). Comparing the reported  $t$  statistic of  $\phi^*$  coefficients (-3.334, -4.09 respectively) with the critical value of 1.96 taken from the standard normal tables, the  $H_0$  of  $\phi^* = 0$  is rejected, implying no unit root. The two series have also reported a  $t$  statistic of coefficients  $\beta t$  of -3.6 and -3.84 respectively, comparing with the critical value of 1.96. This implies a linear trend, possibly with an intercept. Using a conventional  $t$ -test in order to test whether the intercept is zero, the  $t$ -statistic for the two indices was found to be 3.48 and 4.18 respectively, thereby rejecting the null hypothesis and implying a drift. As a conclusion, the industry and service price indices are stationary with a linear trend and a non-zero drift.

On the other hand, all indices of stock prices exhibited a unit root when different specifications for a unit root were used, such as different number of lags, with or without intercept, with or without trend, and the combinations of these alternatives.

Whilst the price indices series showed deterministic or stochastic trends, nevertheless, the presence of a unit root (non-stationarity) in stock prices is only a necessary (but not sufficient) condition for a random-walk process. As Campbell *et al.* (1997) demonstrated, unit root tests only explore the permanent/temporary nature of shocks to the series and, as such, have no bearing on the random-walk hypothesis (or predictability). In this light, the use of unit root tests to examine the random-walk hypothesis appears doubtful. See Liu *et al.* (1997) and Long *et al.* (1999).

Moreover, the random walk model needs to fit the model ARIMA (0, 1, 0) where the future value of share prices cannot be determined on the basis of past information. Specifically, future share prices will not depend on past (lag) values of share prices or on the disturbance terms as mentioned in Section 1.2. The significant coefficients different from zero suggest dependency of the series in variables other than simply  $P_{t-1}$ , and this violates the assumption of a random walk model and weak-form efficiency.

On the other hand, when the unit root test was performed using the return indices, none of them (as shown in Table 4. exhibited a unit root; that is, as expected, all the indices of stock returns are stationary. As the return is the log for first difference of the prices, the price series can be considered as I (1) series, whilst returns are I (0) (Refer to Appendix 4 and note 6).

However the hypothesis of random walk is rejected, for the return indices, by the Dickey-Fuller test at a very high level of confidence (> 99 %). Those results lead us to the conclusion, at this stage, that the random walk model is not satisfactory for ASE returns. Note that rejection of random walk in itself does not imply stationarity. However, these results are in line with the results reported by Neaime (2002) which suggested that, according to the (ADF) tests results, the MENA (Middle East and North Africa) stock market price series are non-stationary. However, unit roots in the first differences of the stock prices are rejected at the 1 percent significance level, suggesting that price indices in the MENA regions are I (1).

### 3. Conclusion

This paper has investigated empirically some important aspects of price indices and return behaviour properties for the ASE. The Efficient Market Hypothesis has been assessed using recent econometric procedures. The Box-Jenkins estimation, irrespective of the index examined, produced models with high prediction validity; this implies the existence of deviations from market efficiency in the pricing of equities in the ASE. The unit-root test also confirmed these results, as the return series for all indices did not exhibit unit root and all processes were stationary. Although, the prices series for the general, bank, and insurance indices, exhibited unit roots, it is not sufficient for a random walk process since the series did not fit the ARIMA (0, 1, 0) model. As Campbell *et al.* (1997) demonstrated, unit root tests only explore the permanent/temporary nature of shocks to the series and, as such, have no bearing on the random-walk hypothesis or predictability.

The findings of this study are consistent with the results achieved by studies conducted in emerging markets which used different statistical tools and techniques to test the weak form efficiency of stock markets in Middle Eastern stock

markets (El-Erian and Kumar, 1995), Kuwait and Saudi Arabia (Butler and Malaikah, 1992), Saudi Financial Market (Nourrendine and Kababa, 1998), Dhaka Stock Exchange Mobarek, 2000), Indian stock market (Pandey, 2003; Pradhan et al.2009), Turkey (Tas and Dursonoglu, 2005).

However, the current study suffers from data selection limitation. As mentioned earlier, data used in this study covered the period January 2000 till December of 2008. Therefore, the study did not test the efficiency of ASE after the financial crises of 2008. This is due to the fact that quoted prices for 2010 were not available at the time of executing this study. Consequently, it is suggested that future research carried out in the Middle Eastern context should include periods before and after the financial crises of 2008 to test its impact on market efficiency. Furthermore, future research is suggested to study the interrelationship between market liquidity and efficiency. Also, cultural factors (e.g. religious, market regulations, and level of professionalism) might be tackled in this area.

## References

- Abraham, A., Seyyed, F. J., & Alsakran, S. A. (2002). Testing the random behavior and efficiency of the Gulf stock markets. *The Financial Review*, 37(3), 469-480. <http://dx.doi.org/10.1111/0732-8516.00008>
- Bachelier, L. (1900). Theory of Speculation. In *Cootner (1964)*, 17-78.
- Campbell, J., A. Lo, & C. MacKinlay. (1997). *The econometrics of financial markets*. (1st ed.), New Jersey: Princeton University Press, (Chapter 4).
- Chakraborty, M. (2006). Market Efficiency for the Pakistan Stock Market. *South Asia Economic Journal*, 7 (1), 67-81. <http://dx.doi.org/10.1177/139156140500700104>
- Choudhry, T. (1994). Stochastic trends and stock prices: an international inquiry. *Applied Financial Economics*, 4, 383-390. <http://dx.doi.org/10.1080/758518670>
- Cootner, P. H. (1964). *The Random Character of Stock Market Prices*. Cambridge MA: MIT Press.
- Cowles, A. (1933). Can Stock Market Forecasters Forecast? *Econometrica*, 1, 309-324. <http://dx.doi.org/10.2307/1907042>
- Dragotă, Victor, Stoian, Andreea M., Pele, Daniel T., Mitrică, Eugen, & Bensafta, Malik. (2009). The Development of the Romanian Capital Market: Evidences on Information Efficiency, *Romanian Journal of Economic Forecasting*, 10, 147-160.
- El-Erian, M., & M. Kumar. (1994). Emerging Equity Markets in Middle Eastern Countries. In *International Monetary Fund, Middle Eastern and Research Departments, Working Paper WP/94/103*.
- Eriotis Nik., Vasiliou Dim., & Papatthaniou Sp. (2008). Testing Technical Anomalies in Athens Stock Exchange. *European Research Studies Journal*, 9(3 – 4), 75-90.
- Fama, E. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *Journal of Finance*, 25, 383-417. <http://dx.doi.org/10.2307/2325486>
- Fama, E. F. (1991). Efficient capital markets: II. *Journal of Finance*, 46(5), 1575-1617. <http://dx.doi.org/10.2307/2328565>
- Fama, E., & K. French. (1998). Value versus Growth: International Evidence. *Journal of Finance*, 53, 1975-2000. <http://dx.doi.org/10.1111/0022-1082.00080>
- Farnum N., & L. Stanton, (1989) *Quantitative Forecasting Methods*. Wadsworth Publishing Company
- Filis, G. (2006). Testing for Market Efficiency in Emerging Markets: Evidence from the Athens Stock Exchange. *Journal of Emerging Market Finance*, 5, 121-133. <http://dx.doi.org/10.1177/097265270600500201>
- Granger, C., & A. Anderson. (1978). *An Introduction to Bilinear Time Series Models*. Gottingen: Vaden hoeck and Reprecht.
- Greene, W. (2000). *Econometric Analysis*. (4th ed.). Prentice Hall.
- Hasanov, Mubariz & Omay, Tolga. (2007). Are the Transition Stock Markets Efficient? Evidence from Non-Linear Unit Root Tests. *Central Bank Review*, 2, 1-12.
- Hegazy, Z. (1998). Price Performance and Egyptian Stock Market Efficiency: An Initial Public Offerings Perspective. *PhD thesis, Strathclyde University*.
- Hsieh, D. (1995). Non-linear Dynamic in Financial Markets: Evidence and Implications. *Financial Analysts Journal*, 55-62. <http://dx.doi.org/10.2469/faj.v51.n4.1921>.
- Maddala, G. (2001). *Introduction to Econometrics*. (3rd ed.). Wiley.

- Moberek, A., & Keasey, K. (2000). Weak form market efficiency of an emerging market: Evidence from Dhaka stock market of Bangladesh. ENBS conference, Oslo, May. [Online] Available: <http://www.e-m-h-org/MoKe00.pdf>. (June 8, 2008).
- Moustafa, M. A. (2004). Testing the Weak-Form Efficiency of the United Arab Emirates Stock Market. *International Journal of Business*, 29(3), 310-325.
- Neaime, S. (2002). Liberalization and Financial Integration of MENA Stock Markets. A paper presented at the ERF's 9th Annual conference on "Finance & Banking" held in Al-Sharja – United Arab Emirates, 26-28 October 2002.
- Nourredine Khababa. (1998). Behavior of Stock Prices in the Saudi Arabian Financial Market: Empirical Research Findings. *Journal of Financial Management & Analysis*, 11, 48-55.
- Opong, K., G., Mulloholland, A. Fox, & k. Farahmand. (1999). The behaviour of some UK equity indices: an application of Hurst and BDS tests. *Journal of empirical finance*, 6, 267-282. [http://dx.doi.org/10.1016/S0927-5398\(99\)00004-3](http://dx.doi.org/10.1016/S0927-5398(99)00004-3)
- Pandey A. (2003). *Efficiency of Indian Stock Market*. Time Series Course.]
- Philips, B., & P. Perron. (1988). Mean Reversion in Stock Prices. *Journal of Financial Economics*, 27-59.
- Poshakwale, S. (1996) Evidence on the Weak -Form Efficiency and the Day of the Week Effect in the Indian Stock Market. *Finance India*, 10, 605-616.
- Pradhan, B. B., Das, K. B., & Mishra, P. K. (2009). Empirical Evidence on Indian Stock Market Efficiency in Context of the Global Financial Crisis. *Global J. Finance Manage*, 1(2), 149-157.
- Roux & Gilbertson. (1978). The behaviour of share prices on the Johannesburg Stock Exchange. *Journal of Business Finance & Accounting*, 5, 223-232. <http://dx.doi.org/10.1111/j.1468-5957.1978.tb00185.x>
- Samuelson, P. (1965). Proof That Properly Anticipated Prices Fluctuate Randomly. *Industrial Management Review*, 6, 41-49.
- Sewell, S. S., Stansell, I. Lee, & M. Pan. (1993). Nonlinearities in emerging foreign capital markets. *Journal of Business Finance and Accounting*, 20, 237-248. <http://dx.doi.org/10.1111/j.1468-5957.1993.tb00662.x>
- Sharma, G. D, Mahendru, M (2009). Efficiency Hypothesis of the Stock Markets: A Case of Indian Securities. *Int. J. Bus. Manage*, 4(3).
- Tas, O., & Dursonoglu, S. (2005). Testing random walk hypothesis for Istanbul Stock Exchange. *International Trade and Finance Association Conference Pape*. [Online] Available: <http://services.bepress.com/otfa/15th/art38> (March 23, 2006).
- Theil, H. (1970). *Economic Forecasts and Policy*. (2nd ed.) Amsterdam: North Holland Publishing Company.
- Willey, T. (1992) Testing for nonlinear dependence in daily stock indices. *Journal of Economics and Business*, 44, 63-76. [http://dx.doi.org/10.1016/0148-6195\(92\)90007-W](http://dx.doi.org/10.1016/0148-6195(92)90007-W)

Table 1. AC and PAC for price changes of the five indices

Lags	General		Banks		Insurance		Industry		Service	
	AC	PAC	AC	PAC	AC	PAC	AC	PAC	AC	PAC
1	0.266**	0.266**	0.227**	0.227**	0.196**	0.196**	0.259**	0.259**	0.22**	0.22**
2	0.013	-0.063**	0.018	-0.035	0.029	-0.01	0.022	-0.048*	0.054**	0.007
3	-0.02	-0.008	-0.01	-0.006	0.058**	0.056*	-0.04	-0.035	0.024	0.011
4	-0.028	-0.021	-0.023	-0.019	0.044*	0.023	-0.04	-0.017	0.004	-0.004
5	-0.019	-0.007	-0.025	-0.016	-0.015	-0.03	0.001	0.016	-0.031	-0.033
6	0.01	0.017	0.013	0.023	-0.023	-0.018	0.023	0.018	-0.01	0.003
7	-0.012	-0.023	-0.022	-0.033	0.004	0.009	0.025	0.013	-0.029	-0.027
8	-0.015	-0.006	-0.024	-0.013	0.016	0.016	0.002	-0.009	-0.002	0.011
9	-0.006	-0.001	-0.019	-0.011	-0.005	-0.008	0.014	0.019	-0.022	-0.023
10	0.024	0.027	0.002	0.009	0.005	0.008	0.038	0.035	0.003	0.013
11	0.049*	0.037	0.036	0.035	-0.009	-0.015	0.051*	0.036	-0.003	-0.005
12	-0.017	-0.044*	-0.023	-0.044*	-0.03	-0.028	-0.01	-0.035	0.018	0.019
13	-0.01	0.01	-0.018	-0.002	-0.018	-0.006	0.021	0.038	-0.011	-0.019
14	0.055**	0.061*	0.049*	0.058*	0.014	0.021	0.044*	0.037	0.045*	0.051*
15	0.032	0.002	0.032	0.008	0.033	0.031	0.015	-0.006	0.032	0.014
16	0.016	0.008	0.022	0.013	0.035	0.027	0.008	0.004	0.005	-0.009
17	0.045*	0.043	0.059**	0.051	0.035	0.022	0.03	0.032	0.014	0.016
18	0.033	0.016	0.028	0.008	-0.008	-0.027	0.052*	0.042	0.007	-0.003
19	0.015	0.007	0.017	0.014	0.022	0.025	0.008	-0.018	-0.05*	-0.05
20	-0.017	-0.024	-0.003	-0.011	-0.003	-0.014	-0.03	-0.029	-0.029	-0.008

\*\* Significant at 1% level,

\* Significant at 5% level

Table 2. Estimated ARMA models for price changes for the five indices

General Index					
<b>Model: ARMA(2,0)</b>					
$\Delta P_t = 0.294\Delta P_{t-1} - 0.078\Delta P_{t-2} + \varepsilon_t$					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
AR(1)	0.29443	0.020616	14.28181	< 10 <sup>-5</sup>	
AR(2)	-0.077757	0.020616	-3.771788	0.0002	
<b>Forecast Evaluation</b>					
Theil Inequality Coefficient	(U)	0.002901			
Bias Proportion	(U <sup>M</sup> )	0.00375			
Variance Proportion	(U <sup>S</sup> )	0.013755			
Covariance Proportion	(U <sup>C</sup> )	0.982494			
<b>Bank Index</b>					
<b>Model: ARMA(2,0)</b>					
$\Delta P_t = 0.250\Delta P_{t-1} - 0.045\Delta P_{t-2} + \varepsilon_t$					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
AR(1)	0.249815	0.020656	12.0938	< 10 <sup>-5</sup>	
AR(2)	-0.04501	0.020656	-2.178984	0.0294	
<b>Forecast Evaluation</b>					
Theil Inequality Coefficient	(U)	0.004064			
Bias Proportion	(U <sup>M</sup> )	0.001075			
Variance Proportion	(U <sup>S</sup> )	0.007360			
Covariance Proportion	(U <sup>C</sup> )	0.991565			
<b>Insurance Index:</b>					
<b>Model: ARMA(1,0)</b>					
$\Delta P_t = 0.190\Delta P_{t-1} + \varepsilon_t$					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	



AR(1)	0.189507	0.02032	9.32617	< 10 <sup>-5</sup>
<b>Forecast Evaluation</b>				
Theil Inequality Coefficient	(U)	0.003388		
Bias Proportion	(U <sup>M</sup> )	0.003159		
Variance Proportion	(U <sup>S</sup> )	0.001901		
Covariance Proportion	(U <sup>C</sup> )	0.994940		
<b>Industry Index:</b>				
<b>Model: ARMA(2,0)</b>				
$\Delta P_t = 0.270\Delta P_{t-1} - 0.068\Delta P_{t-2} + \varepsilon_t$				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	0.267926	0.020631	12.9865	< 10 <sup>-5</sup>
AR(2)	-0.06784	0.02063	-3.288375	0.001
<b>Forecast Evaluation</b>				
Theil Inequality Coefficient	(U)	0.003306		
Bias Proportion	(U <sup>M</sup> )	0.008005		
Variance Proportion	(U <sup>S</sup> )	0.009067		
Covariance Proportion	(U <sup>C</sup> )	0.982928		
<b>Service index:</b>				
<b>Model: ARMA(2,0)</b>				
$\Delta P_t = 0.216\Delta P_{t-1} + \varepsilon_t$				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	0.21557	0.020181	10.68187	< 10 <sup>-5</sup>
<b>Forecast Evaluation</b>				
Theil Inequality Coefficient	(U)	0.002403		
Bias Proportion	(U <sup>M</sup> )	0.003009		
Variance Proportion	(U <sup>S</sup> )	0.009473		
Covariance Proportion	(U <sup>C</sup> )	0.987517		

Table 3. Unit Root Tests (Price level of the General Index)

<b>1) Determining the order of differenced terms included in the equations to achieve ADF test.</b>				
LS // Dependent Variable is D(GENERAL)				
Variable	Coefficient	Std. Error	t-Statistic	
C	0.452081	0.172718	2.617454	
GENERAL(-1)	-0.00278	0.001223	-2.27518	
Trend	-1.61E-05	3.39E-05	-0.47576	
D(GENERAL(-1))	0.293729	0.020595	14.26228	
D(GENERAL(-2))	-0.07735	0.020604	-3.75423	
<b>2) Serial Correlation LM Test (suggests no autocorrelated residuals)</b>				
Breusch-Godfrey Serial Correlation LM Test:				
F-statistic	0.582463	Probability	0.558602	
Obs*R-squared	1.167835	Probability	0.557709	
<b>3) Wald Test: <math>H_0 : (\alpha, \beta t, \phi^*) = (\alpha, 0, 0)</math></b>				
Equation: D(general)=c1+c2(general(-1))+c3(trend)+ c4(D(general(-1)))+c5(D(general(-2)))				

Null Hypothesis:	C(2)=0		
	C(3)=0		
F-statistic ( $\Phi_1$ )	<b>3.788438</b>		
Chi-square	7.576876		
There is a unit root ( $\phi^* = 0$ ) with no trend ( $\beta t = 0$ ), with possible drift.			
<b>Path A</b>			
<b>Wald Test:</b> $H_0 : (\alpha, \beta t, \phi^*) = (0,0,0)$			
Equation: $D(\text{general})=c1+c2(\text{general}(-1))+c3(\text{trend})+ c4(D(\text{general}(-1)))+c5(D(\text{general}(-2)))$			
Null Hypothesis:	C(1)=0		
	C(2)=0		
	C(3)=0		
F-statistic ( $\Phi_2$ )	<b>2.689135</b>		
Chi-square	8.067405	<b>random walk without drift</b>	
LS // Dependent Variable is D(GENERAL)			
Variable	Coefficient	Std. Error	t-Statistic
C	0.469156	0.168919	2.777399
GENERAL(-1)	-0.00302	0.001115	-2.71164
D(GENERAL(-1))	0.294033	0.020582	14.28627
D(GENERAL(-2))	-0.07696	0.020584	-3.73873
<b>Wald Test:</b> $H_0 : (\alpha, \phi^*) = (0,0)$			
Equation: $D(\text{general})=c1+c2(\text{general}(-1))+ c3(D(\text{general}(-1)))+c4(D(\text{general}(-2)))$			
Null Hypothesis:	C(1)=0		
	C(2)=0		
F-statistic ( $\Phi_3$ )	<b>3.921828</b>		
Chi-square	7.843656	<b>Unit root and zero drift</b>	
<b>Unit Root Tests (Price level of the Bank Index)</b>			
<b>1) Determining the order of differenced terms included in the equations to achieve ADF test.</b>			
LS // Dependent Variable is D(BANKS)			
Variable	Coefficient	Std. Error	t-Statistic
C	0.302578	0.150209	2.014377
BANKS(-1)	-0.00167	0.001125	-1.47922
Trend	5.30E-05	8.45E-05	0.627171
D(BANKS(-1))	0.249235	0.020655	12.06675
D(BANKS(-2))	-0.04496	0.020666	-2.17543
<b>2) Serial Correlation LM Test (suggests no autocorrelated residuals)</b>			
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.480197	Probability	0.618723
Obs*R-squared	0.962876	Probability	0.617894
<b>3) Wald Test:</b> $H_0 : (\alpha, \beta t, \phi^*) = (\alpha,0,0)$			
Equation: $D(\text{banks})=c1+c2(\text{banks}(-1))+c3(\text{trend})+ c4(D(\text{banks}(-1)))+c5(D(\text{banks}(-2)))$			
Null Hypothesis:	C(2)=0		
	C(3)=0		
F-statistic ( $\Phi_1$ )	<b>1.636362</b>		
Chi-square	3.272725		
There is a unit root ( $\phi^* = 0$ ) with no trend ( $\beta t = 0$ ), with possible drift.			
<b>Path A</b>			
<b>Wald Test:</b> $H_0 : (\alpha, \beta t, \phi^*) = (0,0,0)$			
Equation: $D(\text{banks})=c1+c2(\text{banks}(-1))+c3(\text{trend})+ c4(D(\text{banks}(-1)))+c5(D(\text{banks}(-2)))$			

Null Hypothesis:	C(1)=0		
	C(2)=0		
	C(3)=0		
F-statistic ( $\Phi_2$ )	<b>1.692606</b>	<b>random walk without drift</b>	
Chi-square	5.077818		
LS // Dependent Variable is D(BANKS)			
Variable	Coefficient	Std. Error	t-Statistic
C	0.469156	0.168919	2.777399
BANKS(-1)	-0.00302	0.001115	-2.71164
D(BANKS(-1))	0.294033	0.020582	14.28627
D(BANKS(-2))	-0.07696	0.020584	-3.73873
<b>Wald Test: <math>H_0 : (\alpha, \phi^*) = (0,0)</math></b>			
Equation: D(banks)=c1+c2(banks(-1))+ c3(D(banks(-1))+c4(D(banks(-2)))			
Null Hypothesis:	C(1)=0		
	C(2)=0		
F-statistic ( $\Phi_3$ )	<b>2.342845</b>	<b>Unit root and zero drift</b>	
Chi-square	4.68569		
<b>Unit Root Tests (Price level of the Insurance Index)</b>			
<b>1) Determining the order of differenced terms included in the equations to achieve ADF test.</b>			
LS // Dependent Variable is D(INSURANCE)			
Variable	Coefficient	Std. Error	t-Statistic
C	0.448257	0.172104	2.604575
INSURANCE(-1)	-0.00297	0.001195	-2.48546
Trend	-4.19E-05	2.76E-05	-1.51614
D(INSURANCE(-1))	0.193639	0.02066	9.372631
D(INSURANCE(-2))	-0.03199	0.021025	-1.5213
D(INSURANCE(-3))	0.035181	0.021055	1.670919
D(INSURANCE(-4))	0.032545	0.020683	1.57352
<b>2)Serial Correlation LM Test (suggests no autocorrelated residuals)</b>			
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.486782	Probability	0.226313
Obs*R-squared	2.981238	Probability	0.225233
<b>3)Wald Test: <math>H_0 : (\alpha, \beta t, \phi^*) = (\alpha, 0, 0)</math></b>			
Equation: D(insurance)=c1+c2(insurance(-1))+c3(trend)+ c4(D(insurance(-1))+c5(D(insurance(-2)))+ c6(D(insurance(-3))+c7(D(insurance(-4)))			
Null Hypothesis:	C(2)=0		
	C(3)=0		
F-statistic ( $\Phi_1$ )	3.230248		
Chi-square	6.460497		
There is a unit root ( $\phi^* = 0$ ) with no trend ( $\beta t = 0$ ), with possible drift.			
<b>Path A</b>			
<b>Wald Test: <math>H_0 : (\alpha, \beta t, \phi^*) = (0,0,0)</math></b>			
Equation: D(insurance)=c1+c2(insurance(-1))+c3(trend)+ c4(D(insurance(-1))+c5(D(insurance(-2)))+ c6(D(insurance(-3))+c7(D(insurance(-4)))			
Null Hypothesis:	C(1)=0		
	C(2)=0		
	C(3)=0		
F-statistic ( $\Phi_2$ )	2.356554	<b>random walk without drift</b>	
Chi-square	7.069662		
LS // Dependent Variable is D(INSURANCE)			
Variable	Coefficient	Std. Error	t-Statistic

C	0.301301	0.142253	2.118064
INSURANCE(-1)	-0.00222	0.001087	-2.03949
D(INSURANCE(-1))	0.193852	0.020665	9.380557
D(INSURANCE(-2))	-0.03192	0.021031	-1.51788
D(INSURANCE(-3))	0.035343	0.02106	1.67817
D(INSURANCE(-4))	0.032725	0.020688	1.581806
<b>Wald Test: <math>H_0 : (\alpha, \phi^*) = (0,0)</math></b>			
Equation: $D(\text{insurance})=c1+c2(\text{insurance}(-1))+ c3(D(\text{insurance}(-1)))+c4(D(\text{insurance}(-2)))$			
Null Hypothesis:	C(1)=0		
	C(2)=0		
F-statistic ( $\Phi_3$ )	2.384168		
Chi-square	4.768335	<b>Unit root and zero drift</b>	
<b>Unit Root Tests (Price level of the Industry Index)</b>			
<b>1) Determining the order of differenced terms included in the equations to achieve ADF test.</b>			
LS // Dependent Variable is D(INDUSTRY)			
Variable	Coefficient	Std. Error	t-Statistic
C	0.730324	0.209701	<b>3.482685**</b>
INDUSTRY(-1)	-0.00455	0.001364	<b>-3.33469**</b>
Trend	-0.00019	5.28E-05	<b>-3.59985**</b>
D(INDUSTRY(-1))	0.266808	0.020582	12.96337
D(INDUSTRY(-2))	-0.06763	0.020585	-3.28516
<b>2)Serial Correlation LM Test (suggests no autocorrelated residuals)</b>			
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.805247	Probability	0.447101
Obs*R-squared	1.614208	Probability	0.446148
<b>3)Wald Test: <math>H_0 : (\alpha, \beta t, \phi^*) = (\alpha, 0, 0)</math></b>			
Equation: $D(\text{industry})=c1+c2(\text{industry}(-1))+c3(\text{trend})+ c4(D(\text{industry}(-1)))+c5(D(\text{industry}(-2)))$			
Null Hypothesis:	C(2)=0		
	C(3)=0		
F-statistic ( $\Phi_1$ )	6.713993		
Chi-square	13.42799		
<b>Path B</b>			
<b>The series is stationary with time trend and intercept.</b>			
<b>Unit Root Tests (Price level of the Service Index)</b>			
<b>1) Determining the order of differenced terms included in the equations to achieve ADF test.</b>			
LS // Dependent Variable is D(INDUSTRY)			
Variable	Coefficient	Std. Error	t-Statistic
C	1.144109	0.273537	<b>4.182647**</b>
SERVICES(-1)	-0.0075	0.001834	<b>-4.08991**</b>
Trend	-0.0002	5.15E-05	<b>-3.84709**</b>
D(SERVICES(-1))	0.215842	0.020117	10.72925
<b>2)Serial Correlation LM Test (suggests no autocorrelated residuals)</b>			
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.17191	Probability	0.842066
Obs*R-squared	0.344651	Probability	0.841705
<b>3)Wald Test: <math>H_0 : (\alpha, \beta t, \phi^*) = (\alpha, 0, 0)</math></b>			
Equation: $D(\text{industry})=c1+c2(\text{services}(-1))+c3(\text{trend})+ c4(D(\text{services}(-1)))+c5(D(\text{services}(-2)))$			
Null Hypothesis:	C(2)=0		
	C(3)=0		

F-statistic ( $\Phi_1$ )	8.905464		
Chi-square	17.81093		
<b>Path B</b>			
<b>The series is stationary with time trend and intercept.</b>			

Table 4. Unit Root Tests (Returns of General Index)

<b>1) Determining the order of differenced terms included in the equations to achieve ADF test.</b>			
LS // Dependent Variable is D(RGENERAL)			
Variable	Coefficient	Std. Error	t-Statistic
C	0.000547	0.000273	<b>2.006365**</b>
RGENERAL(-1)	-0.78204	0.025019	<b>-31.2576**</b>
Trend	-3.63E-07	2.01E-07	-1.80688
D(RGENERAL(-1))	0.063881	0.020634	3.095963
<b>2) Serial Correlation LM Test (suggests no autocorrelated residuals)</b>			
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.268087	Probability	0.764865
Obs*R-squared	0.537428	Probability	0.764362
<b>3) Wald Test: <math>H_0 : (\alpha, \beta, \phi^*) = (\alpha, 0, 0)</math></b>			
Equation: D(rgeneral)=c1+c2(rgeneral(-1))+c3(trend)+ c4(D(rgeneral(-1)))			
Null Hypothesis:	C(2)=0		
	C(3)=0		
F-statistic ( $\Phi_1$ )	488.5179		
Chi-square	977.0358		
<b>Path B</b>			
<b>The series is stationary with intercept and without time trend.</b>			
<b>Unit Root Tests (Returns of Bank Index)</b>			
<b>1) Determining the order of differenced terms included in the equations to achieve ADF test.</b>			
LS // Dependent Variable is D(RBANKS)			
Variable	Coefficient	Std. Error	t-Statistic
C	0.000703	0.000332	<b>2.115362**</b>
RBANKS(-1)	-0.80164	0.025702	<b>-31.1895**</b>
Trend	-3.59E-07	2.45E-07	-1.46465
D(RBANKS(-1))	0.036264	0.020664	1.754988
<b>2) Serial Correlation LM Test (suggests no autocorrelated residuals)</b>			
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.60309	Probability	0.547204
Obs*R-squared	1.208652	Probability	0.546442
<b>3) Wald Test: <math>H_0 : (\alpha, \beta, \phi^*) = (\alpha, 0, 0)</math></b>			
Equation: D(rbanks)=c1+c2(rbanks(-1))+c3(trend)+ c4(D(rbanks(-1)))			
Null Hypothesis:	C(2)=0		
	C(3)=0		
F-statistic ( $\Phi_1$ )	486.3935		
Chi-square	972.787		
<b>Path B</b>			
<b>The series is stationary with intercept and without time trend.</b>			
<b>Unit Root Tests (Returns of Insurance Index)</b>			
<b>1) Determining the order of differenced terms included in the equations to achieve ADF test.</b>			
LS // Dependent Variable is D(RINSURANCE)			
Variable	Coefficient	Std. Error	t-Statistic
C	0.000237	0.000242	0.981456
RINSURANCE(-1)	-0.76734	0.031085	<b>-24.6849**</b>
Trend	-1.11E-07	1.78E-07	-0.62428
D(RINSURANCE(-1))	-0.03411	0.026463	-1.28897
D(RINSURANCE(-2))	-0.05631	0.020663	-2.72521
<b>2) Serial Correlation LM Test (suggests no autocorrelated residuals)</b>			
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.284342	Probability	0.277028
Obs*R-squared	2.573553	Probability	0.27616
<b>3) Wald Test: <math>H_0 : (\alpha, \beta, \phi^*) = (\alpha, 0, 0)</math></b>			
Equation: D(rinsurance)=c1+c2(rinsurance(-1))+c3(trend)+ c4(D(rinsurance(-1)))+c5(D(rinsurance(-2)))			

Null Hypothesis:	C(2)=0		
	C(3)=0		
F-statistic ( $\Phi_1$ )	304.6779		
Chi-square	609.3558		
<b>Path B</b>			
<b>The series is stationary without time trend or intercept.</b>			
<b>Unit Root Tests (Returns of Industry Index)</b>			
<b>1) Determining the order of differenced terms included in the equations to achieve ADF test.</b>			
LS // Dependent Variable is D(RINDUSTRY)			
Variable	Coefficient	Std. Error	t-Statistic
C	0.000393	0.000334	1.177036
RINDUSTRY(-1)	-0.77872	0.025157	<b>-30.9538**</b>
Trend	-4.27E-07	2.46E-07	-1.7324
D(RINDUSTRY(-1))	0.049527	0.02065	2.398346
<b>2) Serial Correlation LM Test (suggests no autocorrelated residuals)</b>			
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.635828	Probability	0.195014
Obs*R-squared	3.275471	Probability	0.19442
<b>3) Wald Test: <math>H_0 : (\alpha, \beta t, \phi^*) = (\alpha, 0, 0)</math></b>			
Equation: D(industry)=c1+c2(industry(-1))+c3(trend)+ c4(D(industry(-1)))+c5(D(industry(-2)))			
Null Hypothesis:	C(2)=0		
	C(3)=0		
F-statistic ( $\Phi_1$ )	479.0701		
Chi-square	958.1402		
<b>Path B</b>			
<b>The series is stationary without time trend or intercept.</b>			

Table 5. Continued: Table 4. Unit Root Tests (Returns of Service Index)

<b>1) Determining the order of differenced terms included in the equations to achieve ADF test.</b>			
LS // Dependent Variable is D(RSERVICE)			
Variable	Coefficient	Std. Error	t-Statistic
C	0.000341	0.000327	1.041102
RSERVICES(-1)	-0.77629	0.025838	<b>-30.0446**</b>
Trend	-2.85E-07	2.42E-07	-1.17826
D(RSERVICES(-1))	-0.0059	0.020671	-0.28534
<b>2) Serial Correlation LM Test (suggests no autocorrelated residuals)</b>			
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.010051	Probability	0.364359
Obs*R-squared	2.023538	Probability	0.363575
<b>3) Wald Test: <math>H_0 : (\alpha, \beta t, \phi^*) = (\alpha, 0, 0)</math></b>			
Equation: D(rservice)=c1+c2(rservice(-1))+c3(trend)+ c4(D(rservice(-1)))			
Null Hypothesis:	C(2)=0		
	C(3)=0		
F-statistic ( $\Phi_1$ )	451.3391		
Chi-square	902.6782		
<b>Path B</b>			
<b>The series is stationary without time trend or intercept.</b>			

# Factors Affecting Capacity Utilization Decisions in Nigeria: A Time Series Analysis

Mojekwu, J. N.

Department of Actuarial Science and Insurance  
University of Lagos, Akoka, Lagos, Nigeria  
Tel: 234-803-306-3363 E-mail: jnmoj@yahoo.com

Iwuji, I. I.

Department of Business Administration,  
University of Lagos, Akoka, Lagos, Nigeria  
Tel: 234-805-119-7460 E-mail: iwujifeanyi@yahoo.co.uk

Received: July 11, 2011

Accepted: September 8, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p157

URL: <http://dx.doi.org/10.5539/ibr.v5n1p157>

## Abstract

This study examined the impact of some macroeconomic variables and power supply on the performance of the Nigerian manufacturing sector, using ex-post facto research design. Secondary data were sourced from Central Bank of Nigeria (CBN) statistical bulletin (2009) and other publications. The main findings of the study were that power supply had positive and significant impact on capacity utilization while inflation rate and interest rate had negative impact on capacity utilization. However, the impact of interest rate was significant at 5% level while lending rate was insignificant. Time series data were analysed with the aid of e-views 5.0 econometric computer package using least square multiple regression technique. The regression model explained 88.54% of the variation in capacity utilization, after correcting for linearity, normality, auto-correlation and heteroscedascity. The study recommended that the ongoing privatisation of Power Holding Company of Nigeria should be pursued with vigour and that the policy thrust of single digit inflation and lending rates by CBN should be sustained. The government should also put in place monetary and fiscal policies to create an enabling environment for the manufacturing sector, thereby giving a boost to the economy as a whole.

**Keywords:** Nigerian manufacturing sector, Capacity utilization, Multiple regression, Autoregressive Model, Co-integration

## I. Introduction

The problem of the Nigerian Manufacturing sector started in 1970s which corresponded with sharp increase in the international oil price. The government responded with the import substitution strategy aimed at increasing domestic production. There was huge investment in state owned enterprises. The contribution of manufacturing to GDP rose from 2% in 1957 to 7% in 1967. Like in most countries in Africa, the import substitution strategy failed to generate income and employment growth. (Soderbom & Teal, 2002). Following the fall in oil prices in late 1970s and early 1980s the economy went into rapid decline. To avert catastrophic collapse of the economy, the government introduced tough budgetary and fiscal measures, involving deregulation of foreign exchange market, abolition of import licenses, and devaluation of the naira. The effect of these policy measures were nothing to cheer about as the economy took further steps backward, with its attendant miseries on the populace. To stimulate domestic production the structural adjustment programme (SAP) was initiated in 1986. SAP brought with it escalation in exchange rate resulting in high cost of raw materials and spare parts. The SAP programme ended up being a failure. The harsh economic situation triggered a chain reaction, such as high cost of production, scarcity of raw materials and spare parts and huge inventory of unsold goods due to low purchasing power. All these factors impacted negatively on capacity utilisation. (Banjoko, 2002).

Current governmental programmes aimed at reversing the economic trend are National economic empowerment and development (NEEDS) and vision 2020, which according to the proponents will put Nigeria among the first twenty (20) developed economies by the year 2020. It is against this background that it becomes imperative to access the

effects of power supply and some macroeconomic variables on capacity utilization of the Nigerian manufacturing industry, thereby providing policy recommendations to the policy makers. The objectives of the study are:

- To assess the impact of power supply on capacity utilization of the Nigerian Manufacturing industry.
- To evaluate the effects of inflation rate on capacity utilization of the Nigerian Manufacturing industry.
- To examine the relationship between capacity utilization rate and interest rate in Nigerian Manufacturing industry.

In order to achieve the above objectives, the following hypotheses were proposed for testing.

- Power supply will not have significant effect on capacity utilization decisions in Nigeria.
- Inflation rate will not have significant effect on capacity utilization decisions in Nigeria.
- Interest rate will not have significant effect on capacity utilization decision in Nigeria.

## 2. Literature Review

According to Slack et al (2007) capacity utilization is defined as the ratio of actual output to design capacity, symbolically it is expressed as:

$$CU = A_c * 100 / D_c \quad (1)$$

Where CU = Capacity Utilization,  $A_c$  = Actual output,  $D_c$  = Design capacity

Design capacity is the capacity the technical designers have in mind when the operation was commissioned. It is hardly achievable in real life due to both planned and unplanned stoppages. The planned stoppages include set up, preventive maintenance, no work scheduled, quality sampling checks, shift change times etc. The unplanned stoppages include equipment breakdown, quality failure investigation, material stock outs, labour shortages and waiting for materials. The planned stoppages are unavoidable, while the unplanned are avoidable. In computing the actual output, both planned and unplanned stoppages must be deducted from the design capacity.

The influence of some macroeconomic factors as predictors of capacity utilization has been well documented by scholars (Eniola, 2009; Adenekan 2010). The macroeconomic variables identified include; inflation rate, real exchange rate real loans and advances, ratio of import of manufactures to GDP, ratio of federal government expenditures to GDP and ratio of foreign direct investment on GDP.

### 2.1 Power Supply

The work of Siyan and Ekhaton (2001) gave an insight into the gross inefficiency that characterized most public enterprises like the National Electric Power Authority (NEPA) now Power Holding Company of Nigeria (PHCN). The study revealed that the installed capacity of NEPA in the 1980s was 6000MW but by 1990, the available installed capacity dropped to less than 2000MW and has continued to drop since then. Some of the plants which were available in 1980s were no longer available by 1990. The main reasons for the continued drop being inefficiency and corruption (see appendix 1). Table 1 shows that, in 1980 there were a total of 76 installed units with total capacity of 6000MW, but by 2001 only 22 units were available with total capacity of 2716.6MW and actual capacity generated being 2278MW. There was 338.6MW of generation loss from available capacity. At Sapele station for example only two (2) generating units were available in 2001 out of the ten (10) installed in 1980. Available capacity was 360MW in 2001 while actual available capacity was 253MW representing a generating loss of 107MW.

Insert Table 1 Here

### 2.2 Interest Rate

When banks lend money to a manufacturer, they use depositor's money. The interest charged, which currently is about 25% of the principal is made up of two components, 5% to depositors and 20% to cover bank overhead and profit. If this interest is too high as is the case in Nigeria, production cost will also increase and impact negatively on capacity utilization. The negative impact of lending rate is well established in literature.

### 2.3 Inflation Rate

According to Umo (2007), inflation can be defined as a generalized increase in the level of prices sustained over a long period of time. From the definition, inflation is a macroeconomic phenomenon and does not refer to specific products whose prices may fall or rise during the period under consideration. In other words, it refers to the aggregate or basket of goods. It is measured as a ratio of the increase in aggregate price and aggregate price at the base period. It is usually expressed in percentage.



Eniola (2009) reported that Exchange rate, Inflation rate, Imports Federal capital expenditure, foreign direct investment (FDI) and Real loans and advances accounted for 50 percent variation in capacity utilization. Out of the six variables only inflation rate had a negative impact on capacity utilization while the other five had positive impact. The finding also revealed that there was a very strong positive and significant relationship between imported manufactures and capacity utilization, showing that Nigeria is highly important dependent. From the study 1percent change in imported manufactures resulted in 18.33 percent increase in capacity utilization, indicating that Nigeria is highly important dependent.

### 3. Data and Methodology

The study method used is ex-post facto design using 1981 – 2009 data sourced from CBN statistical bulletin and other publications to access the impact of power supply, inflation rate and interest rate on capacity utilization rate.

The data analysis was carried out using ordinary least square (OLS) multiple regression technique. Log transformations of the variables were carried out to improve linearity.

Insert Table 2 Here

#### 3.1 Model Specifications

The following model specifications which were estimated with the aid of e-views 5.0 statistical package are as follows.

Model 1 – At level:

$$\text{Log}(cu_t) = \beta_1 + \beta_2 \log(\text{elec}_t) + \beta_3 \log(\text{inf}_t) + \beta_4 \log(\text{int}_t) + \mu_t \quad (2)$$

Model 2 – including one period lags of variables as independent variables

$$\text{Log}(cu_t) = \beta_1 + \beta_2 \log(\text{elec}_t) + \beta_3 \log(\text{inf}_t) + \beta_4 \log(\text{int}_t) + \beta_5 \log(\text{cu}(-1)) + \beta_6 \log(\text{elec}(-1)) + \beta_7 \log(\text{inf}(-1)) + \beta_8 \log(\text{int}(-1)) + \mu_t \quad (3)$$

Model 3 – Auto regressive (AR) model

$$\text{Log}(cu_t) = \beta_1 + \beta_2 \log(\text{elec}_t) + \beta_3 \log(\text{inf}_t) + \beta_4 \log(\text{int}_t) + \mu_t \quad (4)$$

$$\mu_t = \mu_{t-1} + e_t \quad (5)$$

Where  $cu$  = capacity utilization (%),  $\text{elec}$  = Electricity generated in megawatts,

$\text{inf}$  = inflation rate(%),  $\text{int}$  = interest rate (%), and  $t$  = time period. To diagnose and control the assumptions of the regression modeling the following tests were carried out on the variables as well as the residual. Normality, Augmented Dickey-fuller (ADF) Unit root test, Breusch-Godfery LM test for serial correlation of the residuals and Autoregressive conditional Heteroscedasticity (ARCH) test for non-constant variance of the error term. The e-views 5.0 outputs is as shown in table 3.

The corresponding Substituted Coefficients for models 1, 2, and 3 respectively are shown below:

$$\text{Log}(cu) = 1.517555446 + 0.4326251015 * \text{Log}(\text{elec}) - 0.01953631977 * \text{Log}(\text{inf}) - 0.3282804849 * \text{Log}(\text{int}) \quad (6)$$

$$\text{Log}(cu) = -0.3753031584 + 0.06881104735 * \text{Log}(\text{elec}) - 0.01503188026 * \text{Log}(\text{inf}) + 0.1878999709 * \text{Log}(\text{inf}) + 0.8005849346 * \text{Log}(cu(-1)) + 0.05990645918 * \text{Log}(\text{elec}(-1)) - 0.04458446685 * \text{Log}(\text{inf}(-1)) - 0.08792852816 * \text{Log}(\text{int}(-1)) \quad (7)$$

$$\text{Log}(cu) = 2.562322934 + 0.09154993813 * \text{Log}(\text{elec}) + 0.005186872855 * \text{Log}(\text{inf}) + 0.1366020106 * \text{Log}(\text{int}) + [\text{AR}(1) = 0.8105415303] \quad (8)$$

### 4. Discussion

From the ADF tests only  $\log(\text{inf})$  is stationary at I (0) level of integration or differencing and 5% level of significance, while  $\text{Log}(cu)$ ,  $\log(\text{elec})$ , and  $\log(\text{int})$  are non-stationary. The unrestricted co-integration Rank test (trace) result indicates two co-integrating equations at 0.5 levels. The implication of this though the series are individually non-stationary, they are co-integrated. Model 1, therefore is not spurious or nonsense. (Gujarati, 1999; Alao, 2010; Hossain, 2009; Nahmias, 2001; Engle and Granger, 1987). Model 2 and 3 are an improvement over model 2 and 3 by including one period lags or the error term respectively as independent variables. This addressed the problems of serial correlation, stationarity, heteoscedasticity etc .From table 3, it is evident that models 2 and 3 showed drastic improvement in all dimensions over model 1, including Dubin-watson statistic for serial correlation, coefficient of determination which measures the variation in  $\log(cu)$  explained by the the model, Standard error

which measures the error of forecast of the model, and other indicators. The coefficient of determination improved from 29.9% for model 1 to 84.5% and 82.7% for models 2 and 3 respectively.

Insert Table 4 & Table 5 Here

From the substituted coefficients for model 1, an increase of 1 unit of log (elec) that is,  $e_1 = 2.72$  megawatts generated will be accompanied by an increase of

$e^{0.432526} = 1.54\%$  in capacity utilization holding other variables constant.

The overall impact of the three models is significant as measured by Prob (F-statistics). In practice it is possible to have a situation where the variables have significant impact individually but when taken together the impact might be low as a result of high interaction or correlation among the variables.

From the Wald test electricity supply has a significant positive impact on capacity utilisation at 5% level of significance, while inflation rate and interest rate have negative impact. The impact of interest rate is significant at a p-value of 0.0212 and 0.039 for F-Statistics and  $\chi^2$  statistic respectively. The impact of inflation is negative as expected but not significant at 5% level. The effect of interest rate being negative is expected because it has direct relationship with high production cost which lowers capacity utilization. The effect of electricity is understandable because when the machines are idle production shutdown.

## 5. Conclusion

It is strongly recommended that PHCN should be privatized without further delay. The issue of improved power supply as a strategy aimed at boosting capacity utilization of the manufacturing sector and the economy as a whole cannot be emphasized. A situation where PHCN had an installed and available capacity of 6000MW in 1980 but is struggling to generate 1500MW of electricity in 2011 is by all known standards an abysmally poor performance. Borrowing from the experience of China where power generation is decentralized the independent power supply strategy has to be vigorously pursued. In addition to hydroelectricity the time has come for us to consider in our National strategic plans, other options in addition to gas as source of power for the turbines. The alternative sources include the use of coal, wind, bio-fuel and solar energy.

The present policy of CBN to keep inflation and interest rate at single digit level should be vigorously pursued. The study clearly shows that both variables impact negatively on capacity utilization.

The government should always consider the findings and recommendations of researchers and captains of industry in crafting policies.

The government should also constitute a committee where all stakeholders including manufacturers will be fully represented. The committee should be headed by the Head of State so that the committee's recommendations could have an eye on implementations against what obtained in the past where committee recommendations had no executive backing.

The government should also set specific targets for the manufacturing sector in the implementation plan of vision 2020. For example there is no reason capacity utilization should not increase from present level of 35% to 65% by 2015. This is achievable if the present level of power generation of 1500MW is increased to 15,000MW by 2015.

From the findings and policy recommendations, the role of the government in cushioning the effects of epileptic power supply and other macroeconomic variables on capacity utilization cannot be overemphasized. The government should put in place appropriate macroeconomic policies to improve the performance of the manufacturing industry. This is important if the noble objective of vision 2020 of Nigeria being counted among the first twenty industrialized economies of the world by the year 2020 is to be realized.

## References

- Adenekan, S. (2010). Low Capacity Utilisation, Bane of the Nigerian Manufacturing Sector. [Online] Available: <http://www.punchng.com/Articl.aspx?theartic=Art201001072339196>. (January 8, 2010)
- Alao, B. O. (2010). Productivity in the Nigerian Manufacturing Sub- Sector: An Error Correction Model (ECM). *Journal of Economics, Finance and Administrative Sciences*, 20, 1450-2275.
- Banjoko, S. A. (2002). *Production and Operations Management*. Nigeria: Pumarck Nigeria Limited.
- Dickey, D. A., & Fuller, W. A. (1979). Distribution of the Estimators for Autoregressive Time Series with a unit Root. *Journal of the American Statistical Association*, 74, 427 – 431. <http://dx.doi.org/10.2307/2286348>
- Engle, R. F., & Granger, C. W. J. (1987). Co-integration and Error Correction Representations, Estimation and Testing. *Econometrica*, 251-76. <http://dx.doi.org/10.2307/1913236>

- Enimola, S. S. (2009). The Determinants of Capacity Utilization in Nigeria Manufacturing Industry. *Journal of Economic Thought*, 3(1), 57- 63
- Gujarati, D. N. (1999). *Essentials of Econometrics, McGraw-Hill Internationa*, (2nd ed.). New York. (chapters 11-14).
- Mackinnon, J. G. (1996). Numerical Distribution Functions for Unit root and Co-integration Tests. *Journal of Applied Econometrics*, 11, 601 – 618.  
[http://dx.doi.org/10.1002/\(SICI\)1099-1255\(199611\)11:6<601::AID-JAE417>3.0.CO;2-T](http://dx.doi.org/10.1002/(SICI)1099-1255(199611)11:6<601::AID-JAE417>3.0.CO;2-T).
- Nahmias, S. (2001). *Production and Operations Management*. (4th ed.). New York: McGraw-Hill .
- Siyon, P., & Ekhatov, V. (2001). Restructuring The Nigerian Economy Through The Privatisation of Public Enterprises: An Impact Analysis of the National Electric Power Authority (NEPA) (2001). Daily Broadcast, National Control Centre, Oshogbo, Nigeria. Lagos Organisation Review 32, LOR Feature 2.
- Slack, N., Chambers, S., & Johnston, R. (2008). *Operations Management*. (5th ed.). UK: Prentice Hall.
- Soderbom, M; & teal, F. (2002). *The Performance of Nigerian Manufacturing Firms: Report on the Nigerian Manufacturing Enterprise Survey 2001*. UK: Centre for the Study of African Economies University of Oxford.
- Umo, J. U. (2003). *Practical Microeconomic Analysis in African Context*. Nigeria: Netlink research Consult Ltd. Ebute Metta, Lagos.

Table 1. Power Stations in Nigeria and their Generation Capacities

S/N	Station	Installed unit	Available unit	Installed Available Unit (MW)	Actual Capacity Generated (MW)	Generation Loss (MW)
1	Kanji	8	3	260	186	74
2	Jebba	6	4	385.6	269	16.6
3	Shiroro	4	2	450	425	25
4	Egbin	6	3	880	825	57
5	Sapele	10	2	360	253	107
6	Afam	18	3	40	30	101
7	Delta	20	3	320	291	29
8	Ijora	3	1	20	0	20
9	Calabar	1	1	1	1	0
	Total	76	22	2716.6	2278	338.6

Source: Daily Broadcast, national Control Centre, Oshogbo, 2000 as Reported by Siyan and Ekhatov (2001)

Table 2. Annual Capacity Utilization Rates, Electricity Generation, GDP, Inflation and Interest Rates

Year	MANUFACTURING CAPACITY UTILIZATION RATE (%)	ELECTRICITY GENERATION IN MEGAWATTS (MW)	GROSS DOMESTIC PRODUCT AT 1990 BASIC PRICES (MILLIONS OF NAIRA)	INFLATION RATE (%)	INTEREST RATE LEADING (%)
Obs	CU	ELEC	GDP	INF	INT
1981	73.30000	1603.800	251052.3	20.90000	10.00000
1982	63.60000	1775.400	246725.6	7.700000	11.75000
1983	49.70000	1707.200	230380.8	23.20000	11.50000
1984	43.00000	1804.800	227254.4	39.60000	13.00000
1985	38.30000	2038.400	253013.3	5.500000	11.75000
1986	38.80000	1331.800	257784.4	5.400000	12.00000
1987	40.40000	1393.200	255997.0	10.20000	19.20000
1988	42.40000	1404.200	275409.6	38.00000	17.60000
1989	43.80000	1518.800	295090.8	40.90000	24.60000
1990	40.30000	1656.000	472648.7	7.500000	27.70000
1991	42.00000	1656.000	328644.5	13.00000	20.80000
1992	38.10000	1847.000	337288.6	44.50000	31.20000
1993	37.20000	1874.800	342540.5	57.20000	36.09000
1994	30.40000	2013.600	345228.5	57.00000	21.00000
1995	29.30000	1981.400	352648.6	72.80000	20.79000
1996	32.50000	2025.000	367218.1	29.30000	20.86000
1997	30.40000	2012.800	377839.8	8.500000	23.32000
1998	32.40000	1881.800	388468.1	10.00000	21.34000
1999	34.60000	1906.400	393107.2	6.600000	27.19000
2000	36.10000	1944.400	412332.0	6.900000	21.55000
2001	42.70000	2278.100	431783.1	18.90000	21.34000
2002	54.90000	2250.200	451785.6	12.90000	29.70000
2003	56.50000	2397.800	495007.1	14.00000	22.47000
2004	55.70000	2762.300	527576.0	15.00000	20.62000
2005	54.80000	2687.100	561931.4	17.90000	19.47000
2006	53.30000	2650.200	595821.6	8.200000	18.70000
2007	53.38000	2789.100	634251.1	5.380000	18.36000
2008	53.84000	2845.900	672202.6	11.60000	18.74000
2009	54.30000	2900.300	716949.7	12.40000	22.90000

Source: Central Bank of Nigeria Statistical Bulletin (2009)

Table 3. Model Representation of the Equations - Empirical Results

Statistics	Model 1	Model 2	Model 3
Adjusted R-squared	0.215072	0.885447	0.826892
R-squared	0.299172	0.845354	0.796786
S.E. of regression	0.212185	0.087050	0.099787
Sum squared resid	1.125561	0.151553	0.229021
Log likelihood	5.961484	33.33606	27.55575
Durbin-Watson stat	0.548864	1.668933	1.115099
S.D. dependent var	0.239497	3.753121	3.753121
Mean dependent var	3.771792	0.221359	0.221359
Akaike info criterion	0.135275	1.809719	1.611125
Schwarz criterion	0.053318	1.429089	1.373231
F-statistic	3.557359	22.08457	27.46627
Prob(F-statistic)	0.028544	0.000000	0.000000

Table 4. Augmented Dickey-Fuller (ADF) Unit Root test Statistics Summary Based on Mackinnon (1996) Critical Values.

Variable	Log a	Log (elec)	Log (mf)	Log (int)
t-statistic	-2.1532	-0.8091	-3.5799	-2.6187
p-values	0.2268	0.8010	0.0132	0.1012
Level of integration	I(0)	I(0)	I(0)	I(0)

Table 5. Unrestricted Co integration Rank Test (Trace)

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.675990	62.63667	47.85613	0.0012
At most 1 *	0.532792	32.20822	29.79707	0.0259
At most 2	0.340369	11.66173	15.49471	0.1739
At most 3	0.015716	0.427700	3.841466	0.5131

Trace test indicates 2 co integrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Table 6. WALD Coefficient Test Results

Variable	C	Log (Elec)	Log (Inf)	Log (Int)
Coefficient	1.5176	0.43265	-0.0195	0.3283
Probability of F Statistics	0.2933	0.0307	0.7170	0.0212
Probability of Chi-Square	0.2830	0.2220	0.7148	0.0139

# Internationalization and Capital Structure of Taiwan Electronic Corporations

Feng-Li Lin

Associate professor, Department of Accounting

Chaoyang University of Technology, Taichung, Taiwan

Tel: 886-423-323-000-7421 E-mail: fengli168@gmail.com

Jui-Ying Hung

Assistant Professor, Department of Senior Citizen Service Management

Chaoyang University of Technology, Taichung, Taiwan

Tel: 886-423-323-000-7641 E-mail: jybong@cyut.edu.tw

Received: July 11, 2011

Accepted: October 12, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p164

URL: <http://dx.doi.org/10.5539/ibr.v5n1p164>

## Abstract

This paper analyzes capital structure between the internationalized and domestic electronic industries in Taiwan from 1999 to 2008 as the reference for financing strategies and decision. The evidence shows that the leverage and the payout cash dividend ratio in the internationalized electronic firms are lower than those in domestic electronic firms. Due to the uniqueness and the high profit ability of the internationalized electronic firms in the Taiwan, they have more earnings and inside capital so that the leverage is lower. On the contrary, the internationalization level is irrelevant with the payout cash dividend ratio due to the payout cash dividend depending on the dividend balance policy regulated by government in Taiwan.

**Keywords:** Electronic industry, Capital structure, Leverage, Internationalization

## 1. Introduction

The electronic related products in 2008 reached to 216.6 billion US dollars, account for 48.84% of the total industrial value in Taiwan. 46% of the market value of 1792 public issued companies belongs to electronic industry. The electronic related products in Taiwan account for more than 50% of the export value from 2000 to 2008. The higher internationalization level the higher product uniqueness and competitiveness. Therefore, the financing and the dividend policy are different between the internationalized and domestic electronic industries.

This paper is to analyze the differences between the leverage and cash dividend of the internationalized and domestic electronic industries so as to provide references for the financing and financial decisions of electronic industries in the Taiwan.

## 2. Literature Review

### 2.1 Internationalization

Shaked (1986) and Kim and Lyn (1986) measured the internationalization by foreign sales account for at least 20 percent of total sales. Daniels and Bracker (1989) used foreign assets as percentage of total assets as a proxy of foreign production dependence. Burgman (1996) and Lee and Kwok (1988) defined the internationalization as the ratios of foreign tax divided by total tax greater than 10%. Chen et al. (1997) classified positive foreign pre-tax income of firms as multinationality. Geringer and Olsen (2000) and Ruigrok and Wagner (2003) employed the ratio of foreign subsidiary sales to total sales as the 'degree of internationalization' measure. Hitt (2006) pointed out that international diversification was a strategy through which a firm expands the sales of its goods or services across the borders of global regions and countries into different geographic locations or markets.

### 2.2 Financing

Aggarwal, 1990; Deesomsak et al. 2004; Rajan and Zingales 1995 thought that the different internationalization level would make different financial decisions. The leverages of international firms were significant lower than those of

the domestic firms (Burgman, 1996; Chen et al. 1997; David et al. 1998; Doukas and Pantzalis, 2003 and Lee and Kwok, 1988). But, Singh and Nejadmalayeri (2004) studied 90 French companies from 1996 to 1999 and found out that the leverage of a firm had positive relationship with internationalization level. According to static trade off theory, the companies would adjust the leverage to the most suitable ratio in order to avoid too much total risk when facing the complicated international environment (Kale and Noe, 1990). The electronic industries in the Taiwan have high internationalization level with mature business and marketing network and that their products are unique and with high profitability. According to pecking order theory, the top choice is inside capital upon considering capital-raising. Outside capital is taken into consideration only when inside capital is not sufficient. Chang (1990) thought that due to the insufficient of proxy cost and investment, the business with high growing opportunities controlled the earnings by decreasing the liabilities. Therefore, the leverage of the international electronic firms in the Taiwan might be lower than that of the domestic.

### 2.3 Dividend Policy

In 1980s, the electronic industries in Taiwan tended to payout stock dividend while traditional industries tended to payout cash dividend. In 2000s, the market value of the electronic industries in Taiwan has account for more than 50% in the stock market. The business owners then tended to payout cash dividend to avoid EPS dilution. The electronic industries tended to payout cash dividend since 2004 (Lin and Luo, 2005). Review Taiwan, after the implement of combing two taxes and dividend balance policy, it was obvious that the high technology industries payout more cash dividend (Hung et al. 2006). David et al. (1998) pointed out that the higher the internationalization level the bigger the systematic risk. High systematic risk industries had high uncertainty of their future cash flow. They might payout lower cash dividend (Aggarwal, 2010; Rozeff, 1982). In addition, high internationalization would have high growing with more positive reward investment plans to that the stockholders would not worry about over or insufficient investment and were willing to accept lower dividend (Barclay et al. 1995; Porta et al. 2000); therefore, the international electronic firms might have less cash dividend than those in domestic electronic firms in the Taiwan. The purpose of this paper is in the same line as previous literature in investigating the differences between the leverage and cash dividend of the internationalized and domestic electronic industries in the Taiwan. Although their relationship has been the subject of considerable debate throughout the literature, particularly the West, little is known about the implement of combing two taxes and dividend balance policy and the internationalization level impact on the financial decisions of Taiwan electric industry.

## 3. Research Methodology

### 3.1 Model

The empirical models are shown as follow.

$$\text{Lev}_{it} = \alpha_0 + \alpha_1 \text{INTA}_{it} + \alpha_2 \text{Div}_{it} + \alpha_3 \text{Risk}_{it} + \alpha_4 \text{ROA}_{it} + \alpha_5 \text{MTB}_{it} + \alpha_6 \text{MOG}_{it} + \alpha_7 \text{UNQ}_{it} + \alpha_8 \text{NDT}_{it} + \alpha_9 \text{Size}_{it} + \alpha_{10} \text{OL}_{it} + \alpha_{11} \text{FunDef}_{it} + \alpha_{12} \text{Tax}_{it} + \varepsilon_t \quad (1)$$

$$\text{Div}_{it} = b_0 + b_1 \text{INTA}_{it} + b_2 \text{Leverage}_{it} + b_3 \text{Beta}_{it} + b_4 \text{ROA}_{it} + b_5 \text{GR}_{it} + b_6 \text{Size}_{it} + b_7 \text{FCF}_{it} + \varepsilon_t \quad (2)$$

### 3.2 Measure Variables

Leverage (Lev): was defined in this paper as “total liability at the end of the term divided by total asset at the end of the term” to measure the leverage (Ferri and Jone, 1979; Baskin, 1989; Varouj et al. 2006; Ozkan, 2001). Cash dividend payout ratio (Div): Agarwal (2010) used cash dividend divided by aggregate earning of the year to measure the payout ratio. Cash dividend of each share divided by EPS (Baskin, 1989; Doukas and Pantzails, 2003) was used for measurement in this paper. The proxy we employs to measure the internationalization level is the ratio of foreign sales to total sales. A dummy variable for internationalization level is used to differentiate internationalization electronic firms from domestic electronic firms. Observations with the ratio of foreign sales to total sales more than 50% are classified as internationalized electronic firms (INTA = 1), otherwise, those with zero are classified as domestic electronic firms (INTA = 0).

In the control variables of the leverage, the operational risk (Risk): if the market competitiveness is more aggressive, the operational risk will be higher. In order to avoid the total risk getting too high, the leverage will be lowered. Therefore, the operational risk and the leverage were negative correlated (Aggarwal, 2010; Bradley et al. 1984; Chen and Steiner, 1999; Chuck et al. 2000). Standard deviation of the first difference in EBIT divided by the average total asset over 5-year period is used for measurement. Profit ability (ROA): Shyam-Sunders and Myers (1999) and Baskin (1989) thought that when a company was in need for financing capital, it would look for inside capital and then outside capital for the insufficient part. Therefore, profit ability and the leverage should be in negative correlation (Allen and Mizuno, 1989; Barton and Gordom, 1988; Barclay et al. 2006; Titman and Wessels, 1988). Income before extraordinary items divided by total asset was used for measurement. Growing opportunities (MTB):

Nguyen and Faff (2002) thought that when a company had more sales growth opportunities, the insufficient investment problem would be smaller. Therefore, sales growth opportunities and leverage were negative correlated (Barclay et al. 2006; Goyal et al. 2002; Ozkan, 2001). Market value divided by book value of the firm at the end of fiscal year was used for measurement. Asset mortgage value (MOG): asset mortgage value and the leverage were positive correlated (Marsh, 1982; Titman and Wessels, 1988; Jensen et al. 1992; Hovakimian et al. 2001). Net property, plant and equipment divided by total asset was used for measurement. Uniqueness (UNQ): the higher the uniqueness of the products the more competitive and profit ability they would have. The inside capital is then increased and the need for outside financing is decreased. Therefore, the uniqueness of the products and the leverage were negative correlated (Bradley et al. 1984; Burgman, 1996; Lee and Kwok, 1988; Kim and Lyn, 1986; Titman and Wessels, 1988). Ratio of R&D and advertising expenses to total sales was used for measurement. Non-debt tax shield (NDT): the tax saving interest of the debt would be balanced by non-debt tax shield. Therefore, non-debt tax shield and the leverage were negative correlated (DeAngelo and Masulis, 1980; Doukas and Pantzails, 2003; Noronha, 1996; Ozkan, 2001). Ratio of depreciation and amortization expenses to total sales was used for measurement. Size: Graham et al. (2002) indicated that a larger size would have better credit ratings and less information asymmetry. It would be easier to seek for outside financing; therefore, the size and leverage were positive correlated (Aggarwal, 2010; Booth et al. 2001; Doukas and Pantzails, 2003). Natural log of total sales was used for measurement. Operation leverage (OL): Ferri and Jones (1979) thought that when the operation leverage was greater, the differences of the earnings of a business and the cash flow would be greater. The capability of paying fix interest would be decreased. Therefore, operation leverage and the leverage are negative correlated. Annual percent change in EBIT divided by the percent change in sales is used for measurement. The model of the fund deficit (FundDefit): dividend payments + capital expenditures + net increase in working capital + current portion of long-term debt – operating cash flow, the model of the fund deficit of Shyam-Sundars and Myers (1999) indicated that besides the business reaching or close to its liability ability, the predicting model of the fund deficit of the financing order would fill up new debt issue. Therefore, the fund deficit and the leverage are positive correlated. Dividend payout ratio (Div): Jensen (1986) thought that the dividend policy had close relationship with the capital structure. The leverage and cash dividend payout ratio were negative correlated (Aggarwal, 2010; Chen and Steiner, 1999). Average tax rate (Tax): interest had the effect of debt tax shield; therefore tax rate and the leverage were positive correlated (Homaifar et al. 1994).

In the control variables of cash dividend, the systematic risk (Beta): Beta value is used to measure systematic risk. When a firm is in the environment of high risk, the uncertainty of future cash flow is high and tends to payout less cash dividend. Therefore, Beta value and cash dividend had negative relationship (Aggarwal, 2010; Rozeff, 1982). Profit ability: profit ability and cash dividend had positive relationship (Jensen et al. 1992; Aggarwal, 2010; Rozeff, 1982; Varouj et al. 2006; Fama and French, 2001). Sales growth rate (GR): the business that had higher sales growth rate would have more positive net current value investment plans. The shareholders wouldn't worry about the situation of over investment and could accept lower dividend (Aggarwal, 2010; Barclay et al. 1995; Porta et al. 2000; Varouj et al. 2006). Therefore, sales growth rate and cash dividend had negative relationship. Average past 5-year sales growth rate was used for measurement. Free cash flow (FCF): in order to lower proxy cost, the stockholders would ask for more dividend to reduce the free cash flow distributed by the administrators. Therefore, free cash flow and cash dividend had positive relationship (Easterbrook, 1984). (Operating profit before depreciation expenses-interest-cash dividend) / beginning asset is used for measurement. Size: Chang and Rhee (1990), Aggarwal (2010), Smith and Watts (1992) thought that larger size would have more inside capital and tended to payout more cash dividend; therefore, the size and cash dividend had positive relationship.

### 3.3 Sample

The data recourse of this paper is the data base of Taiwan Economic Journal. The samples are the listing companies in the US from 1999 to 2008. According to their operating characteristic and special financial structures, the specimen selection criteria are deleting insurance business, security business, public affairs and governmental business; 13,250 observations and 2,780 of non-electronic industries are deleted. Due to the different founded time, 9,130 observations of 10-year non-complete specimen are deleted. The extreme values were handled in winsorize way that the first and the ninety-ninth percentiles of the observation were winsorized (Affarwal, 2010). Thus, up to 1340 observations including 980 internationalized electronic firms and 360 domestic electronic firms in the Taiwan are used in this paper.

## 4. Empirical Result and Analysis

### 4.1 Descriptive Statistic

Table 1 is the descriptive statistic of the internationalized electronic industries in the Taiwan. The average values of the total asset of the internationalized electronic firms and the domestic electronic firms are 1101.7750 and 382.4317 million US dollars, respectively. The internationalized electronic firms are 2.88 times greater than those in the



domestic. The average leverage of the internationalized electronic industries is 0.414; lower than 0.430 of those in the domestic. The average cash dividend payout ratio in the internationalized electronic industries is 0.243; lower than 0.257 of those in domestic. The average of profit ability, growing opportunities, mortgage asset, product uniqueness, non-debt tax shield, operational risk, operation leverage, systematic risk and sales growth rate, the internationalized electronic industries are higher than those in the domestic. The internationalized average values of the model of the fund deficit, free cash flow and average tax rate are smaller than those in the domestic.

Insert Table 1 Here

#### *4.2 The Regression Analysis of the Internationalized Electronic Industries*

Table 2 is the relationship of the leverage between the internationalized and domestic electronic industries. The leverage of the internationalized electronic industries is lower than those in the domestic and reach significant standard (coefficient is -0.056 and t-value is -7.139). The VIF values of each variables lower than the cut off value 10 shows that each variable has no doubt in co-linearity.

Insert Table 2 Here

As control variables, size and growing opportunities have significant positive relationship with the leverage. This shows that the electronic industries have larger size, higher growing opportunities, the firms are willing to increase finance. Payout cash dividend, profit ability, uniqueness and tax rate have significant negative relationship with the leverage, which means if the electronic industries have more dividend payout, grater profit ability, higher non-debt tax shield, they would unwilling to increase finance. The model of fund deficit has significant negative relationship with the leverage and this means that the financing policy of the electronic industries does not meet the pecking order theory. The mortgaged assets, operation leverage, taxes and operating risk are irrelevant with the leverage.

Table 3 is the relationship of payout cash dividend between the internationalized and the domestic electronic industries. The VIF value of each variable is far below cut off value 10; no doubt of co-linearity. The table shows that the payout cash dividend of the internationalized electronic industries is irrelevant with those of the domestic with non significant level (the coefficient is -0.007 and t-value is -0.403). The payout cash dividend depends on the dividend balance policy regulated by Taiwan government.

Insert Table 3 Here

As control variables, profit ability and firm size have significant positive relationship with the payout cash dividend. This shows that the electronic industries have larger profit and size so that they are willing to pay cash dividend (Aggarwal, 2010; Chang and Rhee, 1990; Jensen et al.1992). The free cash flow has significant positive relationship with the payout cash dividend. The result is consistent with those of Jensen (1986). The leverage and systematic risk have significant negative relationship with the payout cash dividend. This means that electronic industries would give out less cash dividend if the leverage is higher, systematic risk is higher. The sales growth rate is irrelevant with the payout cash dividend.

In order to avoid EPS dilution, the electronic industries tended to pay out cash dividend since 2004 (Lin and Luo, 2005). After the implement of combining two taxes (company and individual taxes) and dividend balance policy (cash and share dividend), the high technology industries pay out more cash dividend and less share dividend (Hung et al. 2006).

In order to test the effect of the relationship of the payout cash dividend between the internationalized and domestic electronic industries after the implement of combing two taxes and dividend balance policy, we separate the sample into two periods of 1999-2003 and 2004-2008. Panel A of Table 4 is the relationship of payout cash dividend between the internationalized and the domestic during1999-2003. The table shows that the payout cash dividend of the internationalized is irrelevant with those of the domestic with non significant level (the coefficient is -0.006 and t-value is -0.311). Panel B of Table 4 is the relationship of payout cash dividend between the internationalized and the domestic during 2004-2008. The payout cash dividend of the internationalized electronic industries is lower than those in the domestic and reach significant standard (coefficient is -0.065 and t-value is -2.363). This means that the internationalized electronic industries tended to pay out cash dividend since 2004 (Lin and Luo, 2005; Hung et al. 2006) influenced by the implement of combining two taxes and dividend balance policy in Taiwan.

Insert Table 4 Here

## **5. Conclusion**

The leverage and the payout cash dividend between the international and the domestic electronic industries in Taiwan from 1999 to 2008 are compared as the reference for financing strategies and decision in this paper. The results show that leverage and the payout cash dividend of the international electronic industries are lower than

those in the domestic. The internationalized electronic industries possibly have the uniqueness and high profit ability and they have more earnings and inside capital so that the leverage is lower. The internationalized electronic industries tended to pay out cash dividend since 2004 due to the implement of combining two taxes and dividend balance policy in Taiwan.

### Acknowledgement

I appreciate Yuyu Rao's data collection for this paper. Without her help, this paper cannot be carried out.

### References

- Aggarwal Raj. (2010). Capital structure, dividend policy, and mltinationality:Theory versus empirical evidence. *International Review of Financial Analysis*, 19(2), 140-150. <http://dx.doi.org/10.1016/j.irfa.2010.01.001>
- Allen, D. E. & Mizunot, H. (1989). The determinants of corporate capital structures: Japanese evidence. *Applied Economics*, 21(5), 569-576. <http://dx.doi.org/10.1080/758524891>
- Barclay, M. J., Morellec, E., & Smith, C. W., (2006). On the debt capacity of growth options, *Journal of Business*, 79(1), 37-59. <http://dx.doi.org/10.1086/497404>.
- Barton, S. L., & P. J. Gordon. (1988). Corporate strategy and capital structure. *Strategic Management.Journal*, 9(6), 623-632. <http://dx.doi.org/10.1002/smj.4250090608>
- Baskin,Jonathan. (1989). An Empirical Investigation of the Pecking Order Hypothesis. *Journal of the Financial Management Association*, 18(1), 26-35. <http://dx.doi.org/10.2307/3665695>
- Booth, L. V., Aivazian, A., Demirguc-Kunt, & V. Maksimovic. (2001). Capital structure in developing countries. *Journal of Finance*, 56(1), 87-130. <http://dx.doi.org/10.1111/0022-1082.00320>
- Bradley, M. G., Jarrell, & E. H. Kim. (1984). On the existence of optimal capital structure: theory and evidence. *Journal of Finance*, 39(3), 857-870. <http://dx.doi.org/10.2307/2327950>
- Burgman, Todd A. (1996). An empirical examination of multinational corporate capital structure. *Journal of International Business Studies*, 27 (3), 553-570. <http://dx.doi.org/10.1057/palgrave.jibs.8490143>
- Chang, R. P. & G. S. Rhee. (1990). The impact of personal taxes on corporate dividend policy and capital structure decisions. *Financial Management*, 19, 21-31. <http://dx.doi.org/10.2307/3665631>
- Chen, Carl R., Steiner, & Thomas L. (1999). Managerial ownership and agency conflicts: A nonlinear simultaneous equation analysis of managerial ownership, risk taking, debt policy, and dividend policy. *The Financial Review*, 34, 119-136. <http://dx.doi.org/10.1111/j.1540-6288.1999.tb00448.x>
- Chen, Charles J. P., Cheng, C. S. Agnes, Jia He, & Jawon Kim. (1997). An invesigation of the relationship between international activities and capital structure. *Journal of International Business Studies*, 28(3), 563-578. <http://dx.doi.org/10.1057/palgrave.jibs.8490111>
- Chuck, C. Y., Kwok, & Reeb, D. M. (2000). Internationalization and firm risk: An upstream-downstream hypothesis. *Journal of International Business Studies*, 31(4), 611-628. <http://dx.doi.org/10.1057/palgrave.jibs.8490925>
- Daniels, John D., & Bracker, Jeffrey. (1989). Profit performance: do foreign operations make a difference? *Management International Review*, 29(1), 46-56.
- David, M. R., C. C. Y. Kwok & H. Y. Baek, Second Quarter. (1998). Systematic risk of the multinational corporation. *Journal of International Business Studies*, 29(2), 263-279. <http://dx.doi.org/10.1057/palgrave.jibs.8490036>
- DeAngelo, H. & R. Masulis. (1980). Optimal capital-structure under corporate and personal taxation. *Journal of Financial Economics*, 8(1), 3-29. [http://dx.doi.org/10.1016/0304-405X\(80\)90019-7](http://dx.doi.org/10.1016/0304-405X(80)90019-7)
- Deesomsak, Rataporn, Krishna Paudyal, & Gioia Pescetto. (2004). The determinants of capital structure: Evidence from the Asia Pacific region. *Journal of Multinational Financial Management*, 14, 387-405. <http://dx.doi.org/10.1016/j.mulfin.2004.03.001>
- Doukas, J. A., & C. Pantzails. (2003). Geographic diversification and agency cost of debt of multinational firms. *Journal of Corporate Finance*, 9, 59-92. [http://dx.doi.org/10.1016/S0929-1199\(01\)00056-6](http://dx.doi.org/10.1016/S0929-1199(01)00056-6)
- Easterbrook, F. H. (1984). Two agency-cost explanations of dividends, America. *Economic Review*, 74, 650-659.
- Fama, E. F., & French, K. R. (2001). Disappearing dividends: changing firm characteristics or lower propensity to pay? *Journal of Financial Economics*, 60, 3-43.

- Ferri, & Wesley H. Jonesy. (1979). Determinants of financial structure: A New methodological approach. *The Journal of Finance*, 34(3), 631-644. <http://dx.doi.org/10.2307/2327431>
- Geringer, J., Tallman, S., & Olsen, D. (2000). Product and international diversification among Japanese multinational firms. *Strategic Management Journal*, 21, 51-80. [http://dx.doi.org/10.1002/\(SICI\)1097-0266\(200001\)21:1<51::AID-SMJ77>3.0.CO;2-K](http://dx.doi.org/10.1002/(SICI)1097-0266(200001)21:1<51::AID-SMJ77>3.0.CO;2-K).
- Goyal, V. K., Lehn, K., & Racic, S. (2002). Growth opportunities and corporate debt policy: The case of the U.S. defense industry. *Journal of Financial Economics*.64:35–59. [http://dx.doi.org/10.1016/S0304-405X\(02\)00070-3](http://dx.doi.org/10.1016/S0304-405X(02)00070-3)
- Hitt, M. A., et. al. (2006). International diversification: antecedents, outcomes, and moderators. *Journal of Management*, 32(6), 831-67. <http://dx.doi.org/10.1177/0149206306293575>
- Homaifar, G., J. Zietz, & O. Benkato. (1994).An empirical model of capital structure: Some new evidence. *Journal of Business Finance and Accounting*, 21, 1-14. <http://dx.doi.org/10.1111/j.1468-5957.1994.tb00302.x>
- Hovakimian, A., Opler, T., & Titman, S. (2001). The debt-equity choice. *Journal of Financial and Quantitative Analysis*, 36(1), 1-24. <http://dx.doi.org/10.2307/2676195>
- Hung, J. H., Tseng, T. Y. & Lin, S. C. (2006). The impact of the dividend imputation tax system on dividend policy-view of tax pressure of shareholders. *Fu Jen Management Review*, 13(1), 133-162.
- Jensen Gerald R., Donald P. Solberg, & Thomas S. Zorn. (1992). Simultaneous determination of insider ownership, debt, and dividend policies. *Journal of financial and Quantitative analysis*, 27, 247-263. <http://dx.doi.org/10.2307/2331370>
- Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers, *American Economic Review*, 76, 323-329.
- Kale, J. R. and T. H. Noe (1990).Risk debt maturity choice in a sequential game equilibrium, *Journal of Financial Research*.13:155–65.
- Kim & Lyn. (1986). Excess market value, the multinational corporation, and Tobin's q. *Journal of International Business Studies*, 17(1), 119-125. <http://dx.doi.org/10.1057/palgrave.jibs.8490420>
- Lee and Kwok (1988).Multinational corporations vs. domestic corporations: *Journal of International Business Studies*.19(2):195-217.
- Lin, C. Y., & Luo, C. L. (2005). The estimates of dividend yield and stock index futures evaluation of the study. *Money Watching & Credit*, 56, 171-181.
- Marsh, Paul. (1982). The choice between equity and debt: An empirical study. *The Journal of Finance*, 37, 121-144. <http://dx.doi.org/10.2307/2327121>.
- Nguyen, H. & Faff, R. (2002). On the determinants of derivatives usage by Australian companies, *Australian Journal of Management*, 27, 1-24. <http://dx.doi.org/10.1177/031289620202700101>
- Noronha, G. M., Shome, D. K., & Morgan, G. E. (1996). The monitoring rationale for dividends and the interaction of capital structure and dividend decisions. *Journal of Banking and Finance*, 20, 439-454. [http://dx.doi.org/10.1016/0378-4266\(95\)00010-0](http://dx.doi.org/10.1016/0378-4266(95)00010-0)
- Ozkan, A. (2001). Determinants of capital structure and adjustment to long run target. *Journal of Business Finance and Accounting*, 28, 175-198. <http://dx.doi.org/10.1111/1468-5957.00370>
- Porta, R. L., F. L., Silanes, A., Shleifer, & R. W., Vishny. (2000). Agency problems and dividend policies around the world. *Journal of Finance*, 55, 1-33. <http://dx.doi.org/10.1111/0022-1082.00199>
- Rajan, Raghuram G. & Zingales Luigi. (1995). What do we know about capital structure? some evidence from international data. *Journal of Finance*, 50(5), 1421-1460. <http://dx.doi.org/10.2307/2329322>
- Rozeff, Michael S. (1982). Growth, beta, and agency costs as determinants of dividend payout ratios. *Journal of Financial Research* (Fall). 249-259.
- Ruigrok & Wagner. (2003). Internationalization and performance: An organizational learning perspective management. *International Review*, 43(1), 63-83.
- Shaked. (1986). Are multinational corporations safer? *Journal of International Business Studies*, 17(1), 83-106. <http://dx.doi.org/10.1057/palgrave.jibs.8490418>
- Shyam-Sunder Stewart C. Myers. (1999). Testing static tradeoff against pecking order models of capital structure. *Journal of Financial Economics*, 51, 219-244.

Singh, M., & A. Nejadmalayeri. (2004). Internationalization, capital structure, and cost of capital: Evidence from French corporations. *Journal of Multinational Financial Management*, 14(2), 153-169. <http://dx.doi.org/10.1016/j.mulfin.2003.07.003>

Smith, Jr., Clifford W. & Ross L. Watts. (1992). The investment opportunity set and corporate financing, dividend, and compensation policies. *Journal of Financial Economics*, 32, 263-292. [http://dx.doi.org/10.1016/0304-405X\(92\)90029-W](http://dx.doi.org/10.1016/0304-405X(92)90029-W)

Titman, S., & R. Wessels. (1988). The determinants of capital structure choice. *Journal of Finance*. 43, 1-19. <http://dx.doi.org/10.2307/2328319>

Varouj A. Aivazian, Laurence Booth, & Sean Cleary. (2006). Dividend smoothing and debt ratings. *Journal of Financial and Quantitative Analysis*, 41(2), 439-453. <http://dx.doi.org/10.1017/S0022109000002131>

Table 1. Descriptive statistics of variables

Variables	Internationalized electronic firms				Domestic electronic firms			
	Min.	Max.	Average	S.D.	Min.	Max.	Average	S.D.
Leverage	0.053	0.875	0.414	0.152	0.026	0.875	0.430	0.165
Div	0.000	1.079	0.243	0.289	0.000	1.654	0.257	0.335
Risk	-24.698	21.487	0.075	4.885	-24.698	21.487	0.059	5.799
ROA	-0.278	0.244	0.049	0.091	-0.505	0.264	0.045	0.098
MTB	0.284	8.802	1.785	1.363	0.191	8.802	1.672	1.574
MOG	0.006	0.693	0.290	0.155	0.006	0.693	0.261	0.170
UNQ	0.000	0.415	0.036	0.039	0.000	0.447	0.031	0.052
NDT	0.002	0.719	0.083	0.088	0.001	1.030	0.072	0.123
Size	4.399	9.290	6.933	0.710	4.780	8.279	6.585	0.610
OL	-14.918	5.837	0.099	2.130	-29.140	19.581	-0.159	3.519
FundDeft	-0.336	1.063	0.413	0.241	-0.687	1.237	0.437	0.323
Beta	0.413	1.590	1.082	0.233	0.208	1.590	0.994	0.297
GR	-4.554	0.640	0.085	0.297	-4.454	0.542	0.063	0.373
FCF	-0.848	0.515	-0.018	0.165	-0.870	0.566	-0.011	0.225
Tax	0.000	3.810	1.852	1.429	0.000	3.810	1.902	1.350
Assets	13.5706	26738.3194	1101.775	2553.132	14.3172	9991.0847	382.4317	881.1867

Table 2. Regression analysis of the leverage

Variable	Leverage		
	$\beta$	T-value	VIF
Intercept	-0.059	-1.623	
INTA	-0.056	-7.139	***
Div	-0.046	-3.641	***
Risk	0.000	-0.122	
ROA	-0.610	-12.840	***
MTB	0.005	2.013	*
MOG	0.017	0.574	
UNQ	-0.924	-10.501	***
NDT	-0.333	-6.898	***
Size	0.096	18.693	***
OL	-0.001	-1.104	
FundDeft	-0.120	-8.404	***
Tax	-0.004	-1.633	
F-vale	72.591***		Adj.R <sup>2</sup>
			39.08%

\*, \*\*, \*\*\*Significant at the 10%, 5%, and 1% levels, respectively.

Table 3. Regression analysis of the cash dividend

Variable	Dividend		
	$\beta$	T-value	VIF
Intercept	-0.193	-2.464 ***	
INTA	-0.007	-0.403	1.090
Leverage	-0.259	-4.628 ***	1.373
Beta	-0.120	-3.739 ***	1.210
ROA	0.915	9.747 ***	1.373
GR	-0.028	-1.106	1.219
Size	0.095	6.932 ***	1.670
FCF	0.168	4.021 ***	1.066
F-valeur	45.327***	Adj.R <sup>2</sup>	18.81%

\*, \*\*, \*\*\*Significant at the 10%, 5%, and 1% levels, respectively.

Table 4. Panel A of Table 3. Regression analysis of the cash dividend during 1999-2003

Variable	Dividend		
	$\beta$	T-value	VIF
Intercept	-0.015	-0.148	
NUTI	-0.006	-0.311	1.114
Leverage	-0.121	-1.580	1.481
Beta	0.137	3.417***	1.244
ROA	0.790	5.872***	1.642
SalesGR	-0.117	-1.495	1.501
Lsize	0.010	0.521	1.745
FCF	0.115	2.416***	1.036
F-valeur	10.8348***	Adj.R <sup>2</sup>	9.33%

\*, \*\*, \*\*\*Significant at the 10%, 5%, and 1% levels, respectively.

Table 5. Panel B of Table3. Regression analysis of the cash dividend during 2004-2008

Variable	Dividend		
	$\beta$	T-value	VIF
Intercept	-0.140	-1.226	
NUTI	-0.065	-2.363 ***	1.070
Leverage	-0.603	-7.996***	1.237
Beta	-0.375	-7.838***	1.202
ROA	0.041	3.434***	1.098
SalesGR	0.094	3.008***	1.398
Lsize	0.161	8.315***	1.698
FCF	0.018	0.681	1.203
F-Valeur	28.636***	Adj.R <sup>2</sup>	22.43%

\*, \*\*, \*\*\*Significant at the 10%, 5%, and 1% levels, respectively.

# The Relationship between Ownership Structure and Firm Performance: An Empirical Analysis over İstanbul Stock Exchange (ISE) Listed Companies

Süleyman Serdar Karaca (Corresponding author)

Department of Business Administration, Gaziosmanpasa University, Turkey

E-mail: skaraca01@gop.edu.tr

İbrahim Halil Ekşi

Department of Business Administration, Kilis 7 Aralık University, Turkey

E-mail: ieksi@kilis.edu.tr

Received: May 31, 2011

Accepted: June 20, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p172

URL: <http://dx.doi.org/10.5539/ibr.v5n1p172>

## Abstracts

This study investigates the relationship between ownership structure and corporate performance of 50 companies, listed in manufacturing industry on the Istanbul Stock Exchange during the 2005-2008 period. The study uses the share of the largest shareholder as ownership structure variables, tobin's q and profit before tax divided by total asset as performance variables, and leverage and firm size (total asset) as control variables. For variables, first panel unit root and Hausman tests were made and then panel data analysis were applied. According to the result of analysis, while TLS were observed to have positive effect on PBT, no effects were observed on TOB.

**Keywords:** Ownership Structure, Firm Performance, ISE, The Share of The Largest Shareholder and Tobin's Q

Jel Classification Codes: G30, L25, N20

## 1. Introduction

The relationship between ownership structure and corporation performance is one that has received considerable attention in finance literature (Jiang 2004).

For a few decades, ownership structure has been an appealing subject for scholars and analysts. The first study within the theory of the firm on the modern corporation was done by Berle and Means in 1932. They debated over conflicts of interest between controllers and managers. They asserted that with growing diffusion of ownership, the power of shareholders to control management is reduced. As a result, they suggested that a negative correlation exist between ownership concentration and a firm's performance (Bargezar and Babu 2008).

Demsetz (1983) put a counter argument by observing that it is unreasonable to suppose that the diffused ownership structure dilutes profit maximization objective as a guide for resource allocation and utilization. He argued that the ownership structure is an 'endogenous' element for maximizing the profit and value of a corporate entity. When the requirement of capital is large for achieving scale rapidly, there is a need to meet the requirement (of capital) by making offer to the public at large to contribute to the equity share capital of a firm. Subscription by the members of public to the equity share capital of a firm leads to diffusion of ownership structure. Thus, the value enhancement of a corporate entity by achieving scale requires a diffused ownership structure, as single ownership is not enough to maximize the value of a firm (Ganguli and Agrawal 2009).

In general, a positive relation between ownership concentration and firm efficiency is predicted and many studies have confirmed it. Further, Stulz (1988) formalised a concave relationship between managerial ownership and firm valuation: an increase in managerial ownership and control will first increase firm value; but at a higher level of managerial ownership, firm value will decrease because of entrenchment effects (Driffield et al. 2006).

Early studies such as Vernon (1966) and Caves (1974) suggested that multinational firms are more productive than their domestic counterparts and that the presence of multinational firms has a positive impact on domestic firms' performance. Foreign direct investment (FDI) by multinational firms has since been advocated as a primary source

of technology diffusion and economic growth for developing countries. In addition to having positive impacts on trade, employment and capital, FDI has also been viewed as a key channel for transferring knowledge, skills, and technology, especially from industrialized to developing countries (Yasar and Poul 2007).

Ownership structure has two implications; i.e. structure of ownership (share percents of state, legal or institution, domestic individual holders) and ownership concentration (share percents of top five or 10 holders). The typical achievement among ownership structure and firm performance researches are the results of Jensen and Meckling. They divided shareholders into internal (investors with management right) and external shareholders (investors without ballot right). The conclusion of their research was that value of a firm depends on the internal shareholder's share, which is called ownership structure. Theoretically, the more the internal shareholder's share the higher the firm value. The researchers also defined firm value as a function of ownership structure. Because ownership structure has links with corporate governance, it can have both positive and negative effects on corporation governance (Jiang 2004).

Some shareholders may be entirely passive investors, whereas others are more active and do perform an important monitoring service. Various motivations and abilities of different types of shareholders may result in their distinctive effectiveness to influence major corporate decisions and value. Managerial ownership (insider ownership) is the most popular topic that has been extensively studied (Hu 2008)

The main objective of this study was to investigate the relationship between ownership structure and corporate performance. The study focuses on the relationship between ownership structure and corporate performance. For this purpose, the study investigated Turkish companies.

## 2. Literature Review

A number of studies have dealt with and discussed the relationship between concentrated ownership and firm performance, the impact of ownership structure on the performance and the relationship between stockholders and managers.

### 2.1 Literature in The World

Leech and Leahy (1991) argue that ownership concentration fundamentally constrains managerial diversion from shareholder interests by determining the distribution of voting power and the control among shareholders. Thomsen and Pedersen (2000) also write that ownership concentration measures the power of shareholders to influence managers. These indicate that it has positive relationship with firm value. Moreover, Denis and McConnell (2003) write that concentrated ownership has a positive relationship with firm value most often. The contrasting view is that the increase in ownership concentration has the danger of entrenched block shareholders that may lead to decrease in firm value. However, there are arguments stating that the relationship is not uniform and systematic. On UK firms, Cubin and Leech (1983) find positive relationship between ownership concentration and accounting profitability measures. Moreover, Lloyd et al. (1987) find greater market-to-sales ratio for owner-controlled companies with ownership concentration.

However, Thomsen and Pedersen (2000) find a non-linear relationship between ownership concentration and firm performance for a sample of largest European firms, ownership concentration shows positive relation up to a certain level, beyond which it shows a negative effect. Leech and Leahy (1991) provide evidence that ownership concentration has a negative impact on valuation ratio, trading profit margin and growth in net assets on UK firms. They find that the greater dispersion of ownership the higher is valuation ratio, profit margin, and growth rate of net assets, depending upon control type. Slovin and Sushka (1993) also find significant excess return following the death of inside blockholders, which they find reducing ownership concentration, thus, indicating negative relation between ownership concentration and firm value. Additionally, adjusting for firm characteristics and fixed effects, Cronqvist and Nilsson (2003) find a significant negative effect of vote ownership of controlling minority shareholders and firm value measured in Tobin's Q, and that ROA is lower for firms with concentrated vote control for Swedish firms.

Lemmon and Lins (2003) studied the effect of ownership structure on changes in shareholder value during the East Asian Financial crisis that began in July 1997. They use the data from 800 firms in eight Asian countries, they found evidence consistent with this view. Cumulative stock returns of firms in which managers and their families separate their control and cash flow rights through pyramid ownership structures are lower by 12 percentage during the crisis period compared to those of other firms. Further, they find that the stock return underperformance associated with pyramid ownership structures was present only in firms where the management group also had a high level of control. The under-performance increases to about 20 percentage for these firms. Finally, during the precrisis period,

we find no evidence that firms with a separation between managerial cash flow rights and control rights exhibit changes in performance different from firms with no such separation.

Miguel, Pindado and Torre (2004) rely on theoretical arguments pointing to the non-linearity of the relationship, two empirical models are specified that allow them to derive the optimal break points in both the relationship between value and ownership concentration, and the relationship between value and insider ownership. Their results showed a quadratic relationship between value and ownership concentration, which confirms not only the monitoring, but also the expropriation effect for the very highest concentration values in Spanish firms, in contrast to the previous findings for U.S., U.K., German, and Japanese firms. Concerning insider ownership, their evidence supports both the convergence-of-interest and the entrenchment effects, and suggests that Spanish insiders get entrenched at higher ownership level than their U.S and U.K. counterparts. In model 1, they suggested that the value of Spanish firms rises as ownership concentration increases from 0 percent to 87 percent as a clear consequence of the more efficient monitoring provided by concentrated share holding and that beyond this breakpoint firm value is negatively affected by ownership concentration since an ownership structure that is so concentrated allows the expropriation of minority shareholders. In model 2, they suggest that for insider ownership values between 0 percent and 35 percent any increment in this variable will be translated into increments in value, as a consequence of the greater incentives for insiders to maximize value as their stakes rise. When ownership ranges from 35 percent to 70 percent, value decreases as insider ownership rises; this result suggests that increases in ownership between 35 percent and 70 percent cause insiders to be less interested in the welfare of the rest of the shareholders, and that their higher stakes are likely to entrench them. Finally, for the very highest ownership levels above 70 per cent the convergence-of-interest seems to dominate the relation again.

The most recent study conducted by Barbosa and Louri (2005) investigated if MNEs operating in Portugal and Greece perform differently than their domestic counterparts. The final sample is considered of 523 manufacturing firms' data produced by Portuguese Ministry of Labour in 1992 and based on Standard survey that must be answered by firms with wage earners every year. In the Greek situation, 2,651 firms are used and data has been obtained from ICAP directory in 1997. After using the robust method of quintile regression, the results suggest that ownership ties do not make a significant difference with corresponding to the firm performance in Portugal and Greece.

Alan and Steve (2005) looked at the short and long term performance of UK corporations acquired by foreigners. The findings on 333 overseas acquisitions by UK limited companies for the period 1984-1995 reveal significant positive returns on the firm performance.

Chen et al.(2005) analyzed a sample of 412 publicly listed Hong Kong firms during 1995-1998 in order to answer three questions. Does concentrated family ownership affect firm operating performance and value? Does it affect dividend policy? What is the impact of corporate governance on performance, value, and dividend payouts? Their results do not show a positive relationship between family ownership and return on assets, return on equity or the market-to-book ratio. In addition, they find a negative relationship between CEO duality and performance (where CEO duality is much more likely in family-controlled firms).

Bhabra (2007) conducted a study over the New Zealand firms during 1994-1998. He used Tobin's q as dependent variable and block shareholders, firm scale (in terms of total sales), development opportunities and leverage as control variables. In his study, he observed a non-linear relationship between internal ownership and firm value.

Li et al.(2007) examined the relationship between managerial ownership and firm performance for a sample of Chinese State-owned enterprises (SOEs) privatized over the period 1992-2000. The results indicated that managerial ownership has a positive effect on firm performance. Although return on assets (ROA) and return on sales (ROS) decline post-privatization, firms with high managerial ownership and, specially, high CEO ownership, exhibit a smaller performance decline. The difference is highly significant, with or without controlling for residual state ownership and changes in the firm's operating environment. They also find that the influence on firm performance becomes less significant at higher levels of CEO ownership. In contrast, performance continues to increase with managerial ownership. This finding suggests that, beyond a certain point, the distribution of shares would be more effective if extended to the whole management team instead of being limited to the chief executive.

Bargezar and Babu (2008) investigated the relationship between ownership structure and corporate performance of top 50 companies listed on the Tehran Stock Exchange during the period 2001-03. In the study, the ownership structure is considered in terms of institutional and non-institutional ownership. The study uses Returns on Asset (ROA), Return on Equity (ROE), and Tobin's Q ratios as measures of firm performance. The results indicate that there is a positive relationship between institutional ownership and firm performance in the case of Iran. In addition, it is found that ownership structure is highly concentrated and firms with diffused ownership have performed better



than those with concentrated ownership. In addition, there is a significant negative relationship between performance and company size, and finally the relationship between debt-to-asset ratio and performance is significant.

### *2.2 Literature in Turkey*

Gunduz and Tatoglu (2003) studied about foreign owned firms' performance in Turkey. They employed the one-way analysis of variance (ANOVA) to investigate the effect of foreign ownership on performance of 202 non-financial firms listed on ISE in 1999. The findings revealed that foreign owned firms have significantly better performance than domestic firms regarding with ROA, but no in other financial performance ratios.

Yildirim and Demireli (2009) conducted a study on the manufacturing firms during 2002-2006. On their study, they used assets, sales, return on equity and tobin's q rates as dependent variables and the share of the largest shareholder, dominance of the general assembly as independent variables and sales figures, leverage as control variables and sub-sectors as sector variables. As a result of their studies, they observed that the profitability of assets, the profitability of sales and return on equity decreased but tobin's q rates increased with increasing power and control over the ownership of the company's largest shareholder.

Mandaci and Gumus (2010) found that the empirical results on the effects of managerial ownership and ownership concentration on firm performance are conflicting. Previous studies focused mostly on large industrialized countries, which completed their institutionalization process and therefore, their outcomes might not be relevant for developing countries. In their study, they try to fill this gap by examining the effects of ownership concentration and managerial and industry dummies, which are assumed to have an effect on firm performance. In addition, they analyzed the ownership structure of the sample firms and found that the highest average percentage of shares was held by the unlisted holding companies, unlisted non-financial firms and individuals and families, respectively, which confirms the widespread belief that in Turkey individuals or families set up their unlisted firms in order to control their listed companies.

Samiloglu and Unlu (2010) investigated the relationship between ownership concentration and the firm performance for Turkish listed companies. (ISE 100). This study covers 70 firms which traded in ISE 100 index, having appropriate data structure. The sample period of the study has also been determined as 2002-2007. As a result, in this study a significant relationship couldn't be found statistically between ownership structure and both market and accounting based performance metrics.

Tanrioven and Aksoy (2010) examined The Partnership Concentration on the Companies Operating in Istanbul Stock Exchange and the Effects on the Firms Performance. The ownership structures are expected to have impact on company performance. In order to examine the impacts of different ownership structure on company performance, regression analysis has been used with 113 companies' data operating in the period 1996-2009 in Istanbul Stock Exchange. In the analysis ROA (Return on Asset), ROE (Return on Equity) and Net Profit Margin have been used as performance variables; concentration, board of directors' size and the proportion of three major partner's share have been used as concentration variables. Those have been determined in the analysis results that generally sales size and profit growth have affected all dependent variables positively; leverage, short-term debt ratio, operating risk and sales structure negatively. Moreover, those have been determined that concentration has affected ROA and TobQ; board of directors' size has affected ROA and TobQ and the three major partner's share has affected TobQ positively.

Bayrakdaroglu (2010) aimed to examine relationship between dependent (such as Tobin's q, ROE and ROA) and independent (ownership concentration, free float rate, foreign ownership and managerial ownership) variables with the help of the panel regressions. Thus, the relationship between ownership structure and financial performance were tested. According to the results obtained from the study, in the context of different models of ownership structure variables have an effect on the financial performance of companies that may be expressed. In general, while ownership concentration and free float rate variables have an effect on financial performance, foreign ownership and managerial ownership variables which measures ownership structure are not found to be statistically significant affect on financial performance

### **3. Methodology**

In the application part of the study, it was tested whether there was empirically relationship between firm performance values and ownership structure. The presence of this relationship was analyzed using panel data econometrics for the 2005-2008 period. In this part of the study used panel unit root tests, panel regression analysis and Hausman tests were briefly described in terms of the theoretical aspects.

### 3.1 Panel Unit Root

As in all time series analysis there be forged relationship in panel data analysis containing a combination of both time and horizontal cross-sectional analysis. To eliminate this situation, variables must be stationary.

Testing for unit root in time series studies is now a standard practice among researchers. However, testing for unit roots in panels is relatively recent. The development of panel data technique has challenged the traditional pure time series methods, principally because it requires fewer time series observation. This in our view is important as we may have to focus on short time spans such as the post crisis period (Baharumshah et al., 2007).

Unit root tests used in the panel data study could be examined in two parts. The tests in the first group (like Im, Pesaran, Shin) and Fihser-oriented tests (like ADF and PP Tests) are called individual unit root tests. Levin, Lin, Chu (2002); Breitung (2000) and Hadri (2000) unit root tests are referred to as the common unit root test (Cetin and Ecevit, 2010). In this study, PP-Fisher and Hadri-Z unit root tests were used. PP-Fisher and Hadri-Z tests were used to test the different hypotheses. While in Hadri-Z unit root test, Zero Hypothesis is established as there is no unit root, in the PP-Fihser unit root test, Zero Hypothesis is to test as there is unit root.

### 3.2 Panel Data

In economic researches different data types can be used such as time series, cross section data and time series-cross section data. Panel data is a method used to estimate the economic relationship with cross section series which has time dimension.

Panel data is a data set where there are time series which belong to multiple sections. When every section has equal length, time series are called balanced panel data and when time series length differs among sections are called unbalanced panel data (Atalay, 2007)

Simple function of Panel data is;

$$Y_{it} = \alpha + \beta_{it} * X_{it} + \dots + \beta_{kit} * X_{kit} + e_{it} \quad (1)$$

$i=1,2,3,\dots,N, t=1,2,\dots,T$

In equation 1,  $i$  stands for section whereas  $t$  for time. In this equation, there is an individual effect which includes properties that belong to sections but doesn't change with time, can't be observed with independent variables and there is an error term including different properties belong to different units. This kind of models are known as one-sided error component regression models (Baltagi, 2005).

Error term in most of the studies is shown as;

$$e_{it} = \mu_i + v_{it} \quad (2)$$

In equation 2,  $\mu_i$  is called individual effect and changes from section to section without depending on time.  $v_{it}$  can change with both time and section. So  $\mu_i$  shows un-observable section effect,  $v_{it}$  shows stochastic error term. One-sided error component models consist of only section effect and stochastic error terms. Models which include unobservable time effects are called two-sided error component regression models. Two-sided error component regression models can be shown as this;

$$e_{it} = \mu_i + \lambda t + v_{it} \quad (3)$$

In equation (3),  $\lambda t$  is a variable that affects whole sections and belongs to only one time zone and cannot be expressed by other variables. With these assumptions  $v_{it}$  stands for unobservable time effect (Ozer and Ciftci, 2009).

One and two sided error component models are divided into two groups depending on assumptions individual and time effects on the error term. Model named fixed effect models when one sided error term predicted the individual effect and when two sided error term both individual predicted and term effects, assumed as the fixed effects that has to be predicted. Another model is random effect model (Atalay, 2007).

In fixed effect models it is assumed that  $\mu_i$  is fixed which stands for unobservable horizontal section effects,  $v_{it}$  has zero mean and has normal distribution with fixed variance. In this model, we have  $N$  equation with some slope but different intersection point. As a result fixed effect method allows a flexible expression of the heterogeneity between sections (Simsek, 2008).

In the random effect models, differences on units or units and time, is including in the model as a component of error term. This is to prevent the loss of degree of freedom. In the random effect model it is important to find special error components that belong to unit or unit and time rather than finding special parameters that belong to unit or unit and time. Moreover in the random effect model, it is taking into account the effects that come from outside of sample as well the effects of observable sample section, units and time (Pazarlioglu and Gurler, 2007).

### 3.3 Hausman Test

Hausman test was used to determine whether to use fixed effect (predicting different coefficient for each country on data set) or random effect (predicting different coefficient for each country in dataset in a randomly manner) for datasets which includes short time section or has similar properties. Hausman test is to test hypotheses as follows;

Ho: fixed effect estimates and random effect estimates are equal (random effect)

H1: fixed effect estimates and random effect estimates are different from each other (no random effects)

### 3.4 Model and Data

In the study, firms quoted during the 2005-2008 period and operated in the manufacturing industry on Istanbul Stock Exchange were examined. Finance companies and holding companies were excluded from the study. In addition, firms excluded from ISE quotation because of bankruptcy, merger or any causes were not included in the study because these firms don't provide continuity constraint. In the analysis, 50 firms operated in the manufacturing industry were examined in 4 years period. The reason for keeping the small number of firms is the request balanced of serial. In the study, data of the firms were ensured from company financial statements and yearbooks from Official Website of the Istanbul Stock Exchange. Statistical analysis was carried out using EViews 7.0 package programme.

Variables used in the study were collected in three groups as dependent, independent and control variables.

Insert Table 1 Here

The purpose of our study was to examine effects on profit before tax and tobin's q variables of the firm ownership structure. At this point, hypotheses we tested is effective on tobin's q variable and profit before tax variable of ownership structure.

In the study, two regression models between variables are as follow;

$$TOBit = \alpha + \beta_1itLEV + \beta_2itSIZ + \beta_3itTLS + e_{it} \quad (4)$$

$$PBTit = \alpha + \beta_1itLEV + \beta_2itSIZ + \beta_3itTLS + e_{it} \quad (5)$$

In equations i and t stands for firms and years respectively.  $e_{it}$  is error term.

## 4. Research Findings

Empirical findings of the study are examined in four section as general statistics for the variables, the results of unit root and Hausman test and panel regression analysis.

### 4.1 Descriptive Statistics and Correlations

Insert Table 2 Here

In the statistics in the table 2 were observed that the average TOB values are 0,866, PBT values are 0,021, LEV values are 0,47, SIZ values are 267.346.602 TL and TLS values are 49.87%. In the table 2, it draws attention in excess of standart deviation of the total assets as indicator of the scale of the firm.

Insert Table 3 Here

In correlation table draws attention to a positive correlation between TOB, PBT and TLS.

### 4.2 The Results of Unit Root

In our study before unit root tests, unit root test done which is to be applied in the form (including intercept, including intercept and trend and none) is determined by Panel Least Squares Method. Detection of this effect by applying, while variables with unit root are purified the unit root, are provided to prevent data loss.

In the other words, instead of immobilization by taking the difference of variables with unit root, purifying of the resulting effect, by revealing a series of new, unit root test are made with a series of new.

Insert Table 4 Here

According to the result of analysis of panel unit root tests, tests are shown that it is not unit root of series. As shown in table 1, for p-values calculated are much smaller than the critical value of 0,05 are refused hypotheses that denoting the series contains unit root.

As can be seen these results, it can be said it is not a common unit root process in series and unit root process for each unit.

#### 4.3 Hausman Test and Panel Regression Statistical Results

In Hausman Test performed for the first model, tobin's q is the dependent variable, were determined that random effect should be used both cross section and the size of period. In Hausman Test performed for the second model, PBT value is the dependent variable were determined that should be used fix for cross section and random effect for period.

Insert Table 5 Here

In the model observed that leverage variable has only a significant effect on tobin's q that refers to firm performance. It wasn't observed that other variables as the share of the largest shareholder and asset size has contribution on the model. Model was determined as follow;

$$TOB = 0.842 - 1.584165 LEV \quad (6)$$

Insert Table 6 Here

In the model, the share of the largest shareholder and leverage variables appear to be the factors affecting the firm performance. Asset size has no significant effect on the firm performance. The model created in the following way;

$$PBT = 0.162 + 0.001 TLS - 0.323 LEV \quad (7)$$

### 5. Conclusion

The main objective of this study is to investigate the relationship between ownership structure and corporate performance. The study focuses on the relationship between ownership structure and corporate performance. For this purpose, the study investigates Turkish companies. Ownership structure has two implications structure of ownership (share percents of state, legal or institution, domestic individual holders) and ownership concentration (share percents of top five or 10 holders).

In our study we analyzed the relationship between ownership concentration and firm performance, the share of the largest shareholder valuable was used to represent the degree of ownership concentrated. The share of the largest shareholder is observed to be effective on PBT with a significant and positive coefficient as statistical in the panel data. Whereas it has no positive effect on TOB. In the literature was observed studies that as it was meaningless relationship between ownership structure and firm performance as Samiloglu and Unlu's study. According to the result of their study a significant relationship couldn't be found statistically between ownership structure and both market and accounting based performance metrics. They found a weak relationship between dependent and independent variables. Their conclusions are consistent with the results of the other studies that unable to detect a strong relationship in the literature and was observed that it was meaning relationship between ownership structure and firm performance in studies.

In our study, PP-Fisher and Hadri-Z unit root tests were used. The results of unit root tests indicate that series has no unit root. In the first model, The share of the largest shareholder ratio as the independent variable did not have statistically a significant effect on Tobin q ratio as the dependent variable. In the second model, The share of the largest shareholder ratio as the independent variable have statistically a significant and positive effect on PBT ratio as the dependent variable.

### References

- Alan Gregory, & Steve McCorrison. (2005). Foreign acquisitions by UK limited companies: short- and long-run performance. *Journal of Empirical Finance*, 12, 99– 125. <http://dx.doi.org/10.1016/j.jempfin.2003.10.003>
- Alberto De Miguel, Julio Pindado, & Chabela De La Torre. (2004). Ownership Structure and Firm Value: New Evidence from Spain. *Strategic Management Journal*, 25(12), 1199-1207. <http://dx.doi.org/10.1002/smj.430>
- Atalay, S. Serpil. (2007). Yeni Avrupa Birliği Ülkelerinde Ve Türkiye'de Reel Yakınsama. Türkiye Cumhuriyet Merkez Bankası Uzmanlık Yeterlilik Tezi.
- Bahram Barzegar, & K Nagendra Babu. (2008). The Effects of Ownership Structure on Firm Performance: Evidence from Iran. *The Icfai Journal of Applied Finance*, 14(3), 43-55.
- Baharumshah Ahmad Zubaidi Raj Aggarwal, & Chan Tze Haw. (2007). East Asian Real Exchange Rates and PPP: New Evidence from Panel-data Tests. *Global Economic Review*, 36(2), 103-119. <http://dx.doi.org/10.1080/12265080701374024>
- Bhabra Gurmeet Singh. (2007). Insider ownership and firm value in New Zealand. *Journal of Multinational Financial Management*, 17, 142–154. <http://dx.doi.org/10.1016/j.mulfin.2006.08.001>
- BALTAGI, Badi. (2005). *Econometric Analysis Of Panel Data*. (3rd ed. ). John Wiley And Sons Ltd.

- Bayrakdaroglu, Ali. (2010). Ownership Structure and Financial Performance; An ISE Case. *Ekonomi Bilimleri Dergisi*, 2(2), 11-20.
- Cubbin, J. & Leech, D. (1993). The Effect of Shareholding Dispersion on the Degree of Control in British Companies: Theory and Measurement. *The Economic Journal*, 93(June), 351-369.
- Cronqvist, H., & Nilsson, M. (2003). Agency Costs of Controlling Minority Shareholders. *Journal of Financial and Quantitative Analysis*, 38(4), 695-714. <http://dx.doi.org/10.2307/4126740>.
- Donghui Li, Fariborz Moshirian, Pascal Nguyen, & Li-Wen Tan. (2007). Managerial ownership and firm performance: Evidence from China's privatizations. *Research in International Business and Finance*, 21, 396-413. <http://dx.doi.org/10.1016/j.ribaf.2007.02.001>
- Denis, D. K., & McConnell, J. J. (2003). International Corporate Governance. *Journal of Financial and Quantitative Analysis*, 38(1), 1-36. <http://dx.doi.org/10.2307/4126762>
- Demsetz, H., & Villalonga, B. (2001). Ownership Structure and Corporate Performance. *Journal of Corporate Finance*, 7, 209-233. [http://dx.doi.org/10.1016/S0929-1199\(01\)00020-7](http://dx.doi.org/10.1016/S0929-1199(01)00020-7)
- Driffield, Nigel Vidya Mahambare, & Sarmistha Pal. (2006). How Does Ownership Structure Affect Capital Structure and Firm Performance? Recent Evidence from East Asia.
- Hu, Yabei. (2008). The Relationship Between Ownership and Performance: A Review of Theory and Evidence. *International Business Research*, 1(4), 72-81.
- Jiang, Ping. (2004). The Relationship Between Ownership Structure and Firm Performance: an Empirical Analysis over Heilongjiang Listed Companies. *Nature and Science*, 2 (4), 87-90.
- Lokman Gunduz, & Ekrem Tatoglu. (2003). A Comparison Of The Financial Characteristics Of Group Affiliated And Independent Firms In Turkey. *European Business Review*, 15(1), 48-54. <http://dx.doi.org/10.1108/09555340310455191>
- Leech, D., & Leahy, J. (1991). Ownership Structure, Control Type Classifications and the Performance of Large British Companies. *Economic Journal*, 101, 1418-1437. <http://dx.doi.org/10.2307/2234893>
- Lloyd, W. P., Modani, N. K., & Hand, J. H. (1987). The Effect of the Degree of Ownership Control on Firm Diversification, Market Value, and Merger Activity. *Journal of Business Research*, 15(4), 303-312. [http://dx.doi.org/10.1016/0148-2963\(87\)90002-6](http://dx.doi.org/10.1016/0148-2963(87)90002-6)
- Mandacı, Pınar Evrim, & Guluzar Kurt Gumus. (2010). Ownership Concentration, Managerial Ownership and Firm Performance: Evidence from Turkey. *SEE Journal*, 57-66.
- Michael L. Lemmon, & Karl V. Lins. (2003). Ownership Structure, Corporate Governance, and Firm Value: Evidence from the East Asian Financial Crisis. *The Journal of Finance*, 58(4), 1445-1468. <http://dx.doi.org/10.1111/1540-6261.00573>
- Murat ÇETİN, & Eyyup ECEVİT. (2010). Sağlık Harcamalarının Ekonomik Büyüme Üzerindeki Etkisi: Oecd Ülkeleri Üzerine Bir Panel Regresyon Analizi. *Doğuş Üniversitesi Dergisi*, 11(2), 166-182.
- Mustafa ÖZER, & Necati Çiftçi. (2009). Ar-Ge Harcamaları Ve Đhracat Đliskisi: OECD Ülkeleri Panel Veri Analizi. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, S. 23, Nisan 2009.
- Natallia Barbosa, & Helen Lourı. (2005). Corporate Performance: Does Ownership Matter? A Comparison of Foreign- and Domestic-Owned Firms in Greece and Portugal. *Review of Industrial Organization*, 27, 73-102. <http://dx.doi.org/10.1007/s11151-005-4920-y>
- Pazarlıođlu, Vedat, M., & Özlem Kiren Gürler. (2007). Telekomünikasyon Yatırımları Ve Ekonomik Büyüme: Panel Veri Yaklaşımı. *Finans Politik & Ekonomik Yorumlar*, 44, 508.
- Samiloglu, Famil, & Ulas Unlu. (2010). The Relationship Between Ownership Structure and Firm Performance. *The Journal of Accounting and Finance*, 46, 66-73.
- Santanu K Ganguli, & Shail Agrawal. (2009). Ownership Structure and Firm Performance: An Empirical Study on Listed Mid-Cap Indian Companies. *The IUP Journal of Applied Finance*, 15(12), 37-52.
- Slovin, M. B., & Sushka, M. E. (1993). Ownership Concentration, Corporate Control Activity, and Firm Value: Evidence from the Death of Insider Blockholders. *The Journal of Finance*, 4, 1293-1321. <http://dx.doi.org/10.2307/2329039>
- Şimşek, Nevzat. (2008). Türkiye'nin Endüstri-İçİ Dış Ticaretinin Analizi, Beta Yayınevi, İstanbul, 1. Basım.

Tanrioven, Cihan, & Emine Ebru Aksoy. (2010). The Partnership Concentration on the Companies Operating in Istanbul Stock Exchange and the Effects on the Firms Performance. 46, 216-231.

Thomsen, S., & Pedersen, T. (2000). Ownership Structure and Economic Performance in the Largest European Companies. *Strategic Management Journal*, 21(6), 689-705. [http://dx.doi.org/10.1002/\(SICI\)1097-0266\(200006\)21:6<689::AID-SMJ115>3.0.CO;2-Y](http://dx.doi.org/10.1002/(SICI)1097-0266(200006)21:6<689::AID-SMJ115>3.0.CO;2-Y)

Yasar Mahmut, & Catherine J. Morrison Poul. (2007). Firm Performance and Foreign Direct Investment: Evidence from Transition Economies. *Economics Bulletin*, 15(21), 1-11.

Zhilan Chen, Yan-Leung CheungT, Aris Stouraitis, & Anita W.S. Wong. (2005). Ownership concentration, firm performance, and dividend policy in Hong Kong. *Pacific-Basin Finance Journal*, 13, 431- 449. <http://dx.doi.org/10.1016/j.pacfin.2004.12.001>

Table 1. Variables, Formula and Symbol

Variables		Formula	Symbol
Dependent Variables	Tobin's q	Market Value / Total Asset	TOB
	Profit before Tax	Profit before tax / Total Asset	PBT
Control Variables	Leverage	Total Dept / Total Assets	LEV
	Size of Assets	Total Asset	SIZ
Independent Variables	The Share of The Largest Shareholder	The Share of The Largest Shareholder / Total Equity	TLS

Table 2. Descriptive Statistics

Variables	Mean	Median	S.D.
TOB	0,866	0,618	0,913
PBT	0,021	0,02	0,161
LEV	0,47	0,44	0,234
SIZ	2,67E+08	1,14E+08	4,84E+08
TLS	49,87	49,5	21,544

Table 3. Correlations

	TOB	TLS	LEV	PBT	SIZ
TOB	1,000	0,316	-0,269	0,232	0,007
TLS	0,317	1,000	-0,179	0,252	0,118
LEV	-0,269	-0,179	1,000	-0,510	-0,153
PBT	0,232	0,252	-0,510	1,000	0,205
SIZ	0,007	0,118	-0,153	0,205	1,000

Table 4. Panel Unit Root Result

Variables	Model	P Value	Statistic	Result	Method
TOB	Intercept and trend	0.0000*	297.6	I(0)	Hadri z
PBT	Intercept	0.0002*	158.518	I(0)	PP-Fisher
LEV	Intercept	0.0000*	179.557	I(0)	PP-Fisher
SIZ	Intercept	0.0000*	164.925	I(0)	PP-Fisher
TLS	Intercept	0.0097*	135.975	I(0)	PP-Fisher

\*significance levels at %1

Table 5. The Panel Data Results Of Model 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LEV	-1.584165	0.415497	-3.812695	0.0002*
TLS	0.002931	0.006301	0.465108	0.6425
SIZ	-3.67E-10	4.62E-10	-0.793583	0.4287
C	0.842761	0.211807	3.978907	0.0001

\*significance levels at %1

Table 6. The Panel Data Result Of Model 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TLS	0.001192	0.000569	2.096708	0.0373**
LEV	-0.323157	0.050867	-6.35292	0.0000*
SIZ	3.71E-11	2.59E-11	1.431461	0.1539
C	0.162965	0.028521	5.713928	0.0000

\*significance levels at %1 – \*\*significance levels at %5

# Examination of the Relationship between Financial Market Liberalisation and the Failures of Small and Medium Sized Enterprises in Nigeria

Obokoh, Lawrence Ogechukwu (ACA)

Department of Management and Accounting, Obafemi Awolowo University, Ile-Ife, Nigeria

Tel: 234-703-777-1207 E-mail: Lechukwu2001@yahoo.com

Asaolu, Taiwo O. (FCA)

Department of Management and Accounting, Obafemi Awolowo University, Ile-Ife, Nigeria

E-mail: twasaolu@yahoo.co.uk

Received: July 26, 2011

Accepted: September 24, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p182

URL: <http://dx.doi.org/10.5539/ibr.v5n1p182>

## Abstract

The paper presents the methodological process applied in arriving at the result of the impact of economic liberalisation on the access to finance by SMEs and how the policy has contributed to the survival or otherwise of manufacturing SMEs following the implementation in 1992. The policy was envisaged to encourage the inflow of investible funds into Nigeria for greater SMEs access to funds by the governments' deregulation of interest rates, exchange rates and the licensing of new banks to stimulate competition for the supply of investible funds. The extent to which the policy has achieved its objectives still remains a puzzle.

However, the application of return on investment (ROI) model on SMEs transaction records reveals that financial market liberalisation partly contributed to the failures of most manufacturing SMEs in Nigeria contrary to the policy objective of improved SMEs opportunities and access to finance. Instead of the competitive free-market rates to attract funds for investment, it became an obstacle that partly hindered the survival of manufacturing SMEs. The result of the study is further strengthened by the outcome of the global financial crisis and the call for regulation of the financial markets.

**Keywords:** Financial markets, Liberalisation, SMEs, Free-market rate, Manufacturing

## 1. Introduction

This paper presents the methodological process followed to arrive at the findings of a longitudinal study of the impact of economic liberalisation on small and medium sized enterprises (SMEs) development in Nigeria. In the specific instance, the impact of financial market liberalisation on the access to finance as well as the survival chances of manufacturing SMEs following the liberalisation of the financial market in 1992. The liberalisation process initially started with the adoption of structural adjustment programme (SAP). The adoption of SAP was as a result of the fall in revenue due to the glut in the international market for primary products which subsequently led to the fall in the price of primary products (Akinlo, 1996; Ajibefun and Daramola, 2003).

This resulted in decreased revenue earnings for the Nigerian government because of its dependence on primary products as the major foreign exchange source. The decrease in revenue resulted in the balance of payment crisis that exposed the deficiencies of the manufacturing sector to support the domestic needs of finished goods (Ikhide and Alawode, 2001; Olukoshi, 1996). This deficiencies/structural weakness in the manufacturing sector prompted the shift from the import substitution industrialisation (ISI) strategy adopted at independence in 1960 to export promotion industrialisation strategy. In this strategy, the private sector (SMEs) was proposed to play a critical role while the government acts as facilitator of economic activities (Ikpeze, et al, 2004).

To achieve this, the policy excised government of its powers/roles in the active participation of economic activities. This prompted the commercialisation and privatisation of all public parastatals, removal of subsidies on petroleum products and cuts in public service budgets to make more funds available to the government (Okome, 1999; Nwankwo and Richards, 2001; Ajibefun and Daramola, 2003). The commercialisation and privatisation exercise in



addition to cuts in public service budgets translated to the reduction in the budgets for the provision and maintenance of public infrastructure (Lee and Anas, 1992; Adenikinju, 2005).

Further steps taken to restructure the economy to ensure efficiency as recommended by the IMF/World Bank in the reform policy were the liberalisation of trade and the financial markets. The liberalisation of trade was expected to ease the importation of raw materials to boost local production, remove bottlenecks in the importation of finished goods that would provide needed competition in the domestic goods market (Akinlo, 1996). The liberalisation of the financial market also saw the deregulation of interest rates, exchange rates and the removal of restriction on the registration of new financial institutions (Ikhide and Alawode, 2001). The reason was to allow for free entry of new financial institutions into the financial market that would engender competition and make it possible for the introduction of new financial products (Ebhodaghe, 1996; Siddiki, 2000; Obadan, 2006, Hübler, et al, 2008). Furthermore, it was expected to encourage the inflow of investible funds into Nigeria for greater SMEs access to formal sector funds which was not easily accessible prior to liberalisation (Akinlo and Odusola, 2003).

## **2. The Nigerian Economy and Manufacturing SMEs**

SMEs especially those in the manufacturing sector are regarded as the engine of economic growth in all economies of the world due to their undisputed contributions towards sustainable economic development through job creation and poverty alleviation (Udechukwu, 2003; Amin and Banerjee, 2007). SMEs utilizes local raw materials at the same time provide markets for raw materials to the industrial sector and serves as training ground for local entrepreneurs (Musa and Danjuma, 2007, Obokoh, 2008a). Due to the small size of SMEs, they are more flexible and easily adaptable to market/ environmental changes within a short term in their area of specialisation compared to large firms (Berry, 2002). The same small size advantage also constitutes obstacle to their accessibility to formal sector finance for their operations and expansion (Mambula, 2002; Madill et al, 2006).

This lack of access to formal sector finance tends to undermine their operations and affect their ability to contribute meaningfully to economic growth in recent times (Kyaruzi, 2006). Consequently, most governments in SSA especially Nigeria now recognises the need to provide enabling business environment that would make financial products accessible to SMEs through the liberalisation of financial market (Owualah and Obokoh, 2008). Still, how the policy measures have served and/or undermined SMEs, fiscal and monetary development, the general economic growth and development in Africa, Nigeria in particular is still heavily contested as a result of the mixed reports of the policy (Sachs and Warner, 1995; Rodríguez and Rodrik, 2000; Ikhide & Alawode, 2001; Noorbakhsh and Paloni, 2001; Prasad, et al, 2003; Stiglitz, et al, 2006). The mixed reports is based on the different methodologies applied in the determination of the impact of liberalisation on different economic variables (Rodríguez and Rodrik, 2000; Winters, 2004).

This then necessitates a re-visit and the need to take a critical and more nuanced look at how financial market liberalisation is affecting SMEs, for good or bad. The paper believes that, it is easier to gain a deeper and more robust insight into the dynamics of economic and market relationship from SMEs, and how this, in turn, implicates the Nigerian economy from below. A further reason why the impact of financial market liberalisation on SMEs is of urgent interest is that it impinges, quite significantly, on the informal sector in Nigeria and other countries in Sub-Saharan Africa.

In the light of these backgrounds, therefore, how might we understand the implications of the policy in Nigeria, and elsewhere across Africa using a different methodological approach? How has the implementation of the policy affected the survival of SMEs and the informal sector generally? If indeed financial market liberalisation policy portends adverse effects for SMEs, as witnessed, for instance, in their poor performances and high mortality rates in recent times? How is this, in turn, responsible for some of the challenges facing SMEs, especially in terms of securing funds for their productive?

To answer these questions, the study applied mixed methods of data collection and analysis that tapped on the strengths of both quantitative and qualitative methods, besides utilizing SPSS version 16, spread sheets and content analysis to analyse the data for the study. So the aim of this paper is partly to present the methodological approach followed in the determination of whether the financial market liberalisation in Nigeria has any link with the failures/ poor performances of manufacturing SMEs and the high mortality rates associated to SMEs after the implementation of the policy. The study was carried out in Lagos state of Nigeria because the state is the industrial hub of Nigeria with the highest concentration of SMEs and covers the period 1980 to 2006.

## **3. Review of Related Literature**

The liberalisation policy in Nigeria is based on the McKinnon & Shaw (1973) theory that financial market liberalisation enables efficient allocation of scarce capital to the benefits of the rest of the economy if the

government allow deposit rates of interest to be the competitive free-market rates. The deregulation of interest rate was aimed at making market forces determine the market rate of interest because it was postulated that markets function more efficiently without government intervention (McKinnon, 1973, Shaw, 1973). This was expected to improve the mobilisation of funds within the domestic informal sector and attract new investible funds from abroad due to the ensuring high interest rates of deregulation. The philosophy then was that, with the mobilisation of more funds from within and abroad, the saturation of the financial market with investible funds would eventually force interest rates down and make funds accessible to both local investors-SMEs and large businesses (Fry, 1988; Henry, 2003).

This has been argued in the literature as unworkable on the grounds that financial market is not like the goods market where excess supply over demand forces down prices (Stiglitz, 2000). The high interest rates will only attract speculative money from abroad and cause distress in businesses that would lead to economic crisis when the money that rushed into the country as a result of high interest rates rushes out of the economy with the slightest sign of crisis (van Wijnbergen, 1985; Stiglitz, 2004). And that government intervention is necessary because of the pervasive market failures in the financial market and the need to protect the market from particularistic interests (Stiglitz, 1998; Zhang, 2006).

Van Wijnbergen (1982) and Taylor (1983) noted that the increase in the total real supply of credit depends on higher deposit rates, the required reserve ratio and on whether the increased holdings of real money balances come mainly from direct lending in the curb market. And as the deposit rate of interest increases, there is the willingness and high propensity for people to deposit their money and these reduces demand for currency and curb market loans. If substitution of deposits for currency holdings is less important than substitution of deposits for curb market loans, then the total supply of working capital will fall and the curb market interest rate will rise. Taylor (1983) and Van Wijnbergen (1982) concluded that financial liberalization is likely to reduce the rate of economic growth by reducing the total real supply of credit available to business firms in real life situations.

Reports have it that certain countries, especially in Asia experienced higher savings and investments after the liberalization of the financial sector which encouraged high interest rates (Khatkhate, 1988), but other studies report failures for some economies that undertook financial liberalization (Larrain, 1989; Hellmann, Murdock and Stiglitz, 2000). Those countries in the later category suffered considerable macroeconomic instability, massive capital flight and widespread bank failures following financial liberalization (Hellmann et al, 2000; Ikhide and Alawode, 2001; Stiglitz, 2000, 2004).

Stiglitz and Weiss (1981) also observed that high interest rate increases the risk of lending to firms. According to Stiglitz (2002), in a country where many firms are highly leveraged, high interest rates do not only weaken the banking system and induce corporate distress; they reduce the ability and willingness of lenders/ financial institutions to lend. Mussa (2000) asserted that financial liberalization had significant adverse effects on less developed countries that were not adequately prepared for it. This is in terms of proper sequencing and setting up of economic structures upon which the policy can function effectively (Mailafia, 2006; Bello, 2007).

Some of the pre-conditions that were supposed to be met such as standard fiscal and monetary policies that should ensure low fiscal deficits and inflation rates; stable and competitive exchange rates with sufficient foreign exchange reserves; a solid financial system supported by effective regulatory and supervisory mechanism were not in place before the implementation of the policy (Obadan, 2006; Emeseh, et al, 2010). In fact the Nigerian government methodology of the economic reform according to Ayadi and Hyman (2006) took a sudden approach because so many economic policy changes were undertaken within a short time. The pre-conditions were even not achievable at the time because Nigeria was experiencing adverse balance of payment crisis when she liberalised her capital account (Obokoh, 2008b).

Furthermore, to facilitate the liberalised trade and capital account convertibility, the government also deregulated the exchange rates to make the naira float according to the dictates of market forces (Akinlo, 1996; Schneider, 2000). The reason was to depreciate the 'over valued' naira to its appropriate value that would make imports more expensive. This was envisaged would encourage local production and consumption of made in Nigeria products thereby stimulating cheap made in Nigeria exports due to the devalued naira (Ajibefun and Daramola, 2003).

In this regard, devaluation has been argued to be an inefficient policy tool to encourage exports due to globalisation of trade that has increased international trading markets (Reinhart, 1995; Obokoh and Ehiobuche, 2011). In addition, it was suggested that the import elasticity of demand for imported goods for the devaluing country must be greater than one for devaluation to be effective export stimulating instrument (Le and Tran, 1995; Akinlo, 1996; Pham and Nguyen, 1999). Apart from these, a nation's competitive advantage in the international business environment such

as its resources and infrastructure (Porter, 1990) ought to be considered before applying devaluation as an export encouraging instrument.

In the case of Nigerian, it appears that both the IMF/World Bank and the Nigerian government did not put into consideration the state of the industrial sector and its dependence on imported raw materials for production (Akinlo and Odusola, 2003). This is because after the adoption of the floating exchange rates, there was a general increase in price level which subsequently led to the fall in the purchasing power of Nigerians (Dawson, 1994; Ekpenyong, 2002). The poor purchasing power translated to reduced patronage of domestic manufacturers. Besides, the liberalisation policy precluded the government from the active participation in economic activities which necessitated the commercialisation and privatisation of public parastatals. This prompted the neglect of infrastructures such as electricity, supply of water and good roads which the government had hoped for private investors that never materialised (Lee and Anas, 1992). The lack of interest by private investors in addition to the cuts in budget for the maintenance of these infrastructures led to the deplorable state of infrastructure in Nigeria. The poor state of infrastructure then translated to the self-provision by manufacturing SMEs which in turn adversely affected their costs of operation (Lee and Anas, 1991; Adenikinju, 2005).

#### **4. Methodology of the Study**

The study used mixed method of data collection and analysis that tapped on the strengths of both quantitative and qualitative approach that incorporated both quantitative (questionnaire survey) and qualitative (semi-structured interview) data (Morgan 1998; Creswell et al, 2003). The primary source of data represented sampled manufacturing SMEs' perspectives of the impact of financial liberalization policy on their businesses. The study then triangulated the primary data collected from both questionnaires and semi-structured interviews sources with the secondary data from the Central Bank of Nigeria (CBN). Statistical Packages for Social Science (SPSS) 16 and return on investment (ROI) model were used as the instruments of analysis.

The decision to apply mixed methods was driven by the research objectives which was informed by the identified research problems and the need to avoid the methodological problems of previous studies as observed by some scholars such as Rodriguez and Rodrik (2000); Agrawal (2004); Winters (2004) and Stiglitz (2000, 2002, 2004). Besides the economic liberalisation policy regarding interest rates, exchange and privatization that precludes the government from direct participation in the provision of infrastructures has had a wide economic impact which makes it necessary to evaluate these economic variables empirically using micro level data from SMEs.

Questionnaires were the research instrument used for the collection of the quantitative primary data administered to 500 manufacturing SMEs, while the qualitative data instrument was the semi-structured interviews administered to 69 of the 100 SMEs that were purposively selected for the semi-structured interview (Ikhide and Yinusa, 1998; McEvoy and Richad, 2006; Ivankova et al, 2006). The secondary data was collected through statistical compilation of panel data from the CBN records and transaction data of the 69 respondents' SMEs to complete the mixed method.

##### *4.1 Description of Data Collection Instrument*

This section describes the data collection instruments, namely the questionnaires and the semi-structured interviews and the justification for the use of both instruments for the collection of data in this study.

##### *4.2 Questionnaires*

The questionnaire was divided into seven sections with each section dealing with each variable that was identified by this study as affecting the performance of manufacturing SMEs in Nigeria which the study sets out to explore. The questionnaire sought the following data from sampled firms: characteristics and profile of the firm; their source of finance before and after the implementation of the liberalization policy; their perception of state of infrastructure; the effects of exchange rate deregulation on their business; the effects of interest rates on their operation and if the deregulation of the interest rates helped to ease their accessibility to finance; their perception of the level of technological development in Nigeria and if the level of technological development in Nigeria affected their operation; and their perception of government support and how adequate are the government support to their operation in the liberalized environment of Nigeria.

The questions were followed by a range of options for which the firms had to tick the option that is most appropriate to them and if otherwise they were met to specify. Since it was not possible to get all the information using this method, the study also used a six point Likert scale to measure the perception of the sampled SMEs on certain issues. The likert scale was to ascertain the perception of the respondents' views on the effects of interest rates charged by the informal money lenders. The decision to employ a six point Likert scale was informed by the outcome of the pilot study. During the pilot study, almost all the participants either avoided or gave evasive answers to questions

that bothered on the effects of the deregulated interest rates and the exchange rates on their business performance respectively.

Apart from these, most of the respondents were unwilling to give specific information on their business, but were happy to give information on general terms about the impact of the interest and exchange rate deregulation on business operation in general (De Vaus, 2002). They also did not want to paint a picture of failing business fortunes because they were skeptical about the information falling into the hands of their competitors. Furthermore, this method was also the only means of eliciting information on those businesses that have gone out of operation within the manufacturing sector and the reasons for their failure at the time of carrying out the survey (Watson and Everett, 1999). It was not possible to locate the owners of those businesses that have gone out of business for their participation in the survey. This is because there is currently no data base of failed businesses in Nigeria where one could get the contact details of the owners of failed businesses. Attempts were made to get this information from the office of the Nigerian Association of Small and Medium Enterprises (NASME) located in Lagos, but we were told they do not have information on failed businesses.

For the purpose of clarity and ease of interpretation, the six point Likert scale of 'strongly agree', 'agree', 'neither agree nor disagree', 'disagree', 'strongly disagree' and 'not applicable' was collapsed into a three-point Likert scale of 'agree', 'disagree' and 'not applicable' by summing the responses that convey similar meaning together (De Vaus, 2002). The 'neither agree nor disagree' was grouped together with 'not applicable' because both options do not affect the outcome of the result as it assumes neutrality. The 'not applicable' option was included to cater for those respondents that have not started their business as at the time economic liberalisation was implemented and wanted to remain neutral or did not want to participate in a particular question in the questionnaire.

#### 4.2.1 Justification for the use of Questionnaire Survey

The questionnaires made it possible to cover a large number of manufacturing SMEs and for the findings to be generalisable based on purposive random sampling of the 500 sample size which yielded a response rate of 430 with 369 valid responses. The questionnaires helped to maximize the possibility of the respondents answering the questions in similar manner and to achieve similar results due to the standardized questions. The questionnaires were pre-tested and found to be able to capture the poor performance of the manufacturing SMEs when the data from the pilot questionnaire survey were analysed.

#### 4.3 Semi-Structured Interviews

The semi-structured interviews were used to obtain detailed and retrospective changes in the business environment over the last 12 years and how the liberalization policy has affected manufacturing SMEs in Nigeria. The semi-structured interviews also helped in collecting information that was not possible to collect with the questionnaires. The semi-structured interviews contained questions that solicited information about the sales/turnover, profits, operating costs and assets figures of respondents'. It was from this information that the ROIs for the various years were computed and used to carry out the comparison with the interest rates (cost of capital) from the CBN data.

The interview data for the study was restricted to 12 years because the 12 years period was the most accurate and up to date data that could be obtained from the 50 SMEs out of the 69 SMEs interviewed for this purpose. The initial plan was to obtain transaction data from 1980 to 2006 so as to enable comparison of the performance of respondents before and after economic liberalisation. Unfortunately, only 9 out of the 369 valid respondents were in existence before the liberalisation policy. Even some of the older SMEs did not have accurate or up to date information beyond the 12 years cut-off mark chosen for the analysis. The non availability of data beyond 12 years from the participants was partly the reason for the 12 years cut off mark. A small number/percentage of those firms that were in existence before the liberalisation policy indirectly explains or gives a picture of the rate of survival/survival chances of manufacturing SMEs despite the policy reforms that were aimed at their development.

#### 4.3.1 Justification for Using Semi-Structured Interviews

It was useful for the in-depth study of the transaction records of the 69 manufacturing SMEs that participated in this stage of the study because of the individual firms' information that were provided. It was useful in describing complex phenomenon of the inter-play of interest rates, exchange rates, the cost effects of the lack of infrastructure, competition from established manufacturers and SMEs chances of survival under a liberalized economy.

#### 4.4 Pilot Study

Prior to the questionnaire survey and semi-structured interview, a pilot survey was conducted on 50 manufacturing SMEs operating in Ibadan, Oyo State of Nigeria in November 2006. All the firms filled out and returned their pilot

questionnaires with a lot of blanks as some of the questions were not answered by the firms. The reason for undertaken the preliminary pilot survey was to validate and test whether the survey questionnaire designed for the study was properly constructed to capture the information needed to answer the research questions, and achieve the research objectives in view of the theoretical framework of the study. It was at the pilot stage that it was observed that most of the SMEs that participated were not comfortable giving out certain information such as sales, profit and cost figures which were vital for the attainment of the study's objectives.

This observation partly informed the amendments in terms of reframing; reducing the number of questions and the removal of some of the areas most SMEs were not comfortable with. As a result, the decision to use semi-structured interviews to support the questionnaire survey was arrived at. The semi-structured interview enabled us to specifically request information that could not be obtained through the questionnaires. It is pertinent to state that it was the information garnered from the pilot survey that laid the foundations for the development of the mixed method design for the data collection of this study.

## 5. Presentation of Results

The data collected using mixed methods provided the information to support the holistic review of the impact of financial market liberalisation policy on manufacturing SMEs on the backdrop of the cut in public infrastructure budgets.

### 5.1 Analysis of the Aggregate of 50 manufacturing SMEs Return on Investment (ROI)

The aggregate of the ROI of the 50 manufacturing SMEs were used to holistically ascertain how the two independent variable (interest and inflation rates) impact on the ROI of the interviewed SMEs. The ROI is the measure of investment appraisal use to measure the performance of divisional managers in a decentralised organisation where each manager is accountable for investment and profits. Here each of the SMEs taken to be a division independent of each other with regard to investment decisions. The investment decisions were assumed to be made in the best interest of each division for the purpose of making profit and staying in business. The interest rate is very important in the use of ROI as a measure of performance because it is the investors reward for the use of their fund or the cost of capital (COC) pay to the investor for the use of their funds. This is determined by market forces in line with liberalisation with inflation rate floating freely according to market condition.

In computing ROI, the study did not adjust for the depreciation of the naira and inflation since it was using profit and asset figures to compute for ROI from the point of view of the SMEs who would have felt justified continuing in business since their ROI is above cost of capital (interest rate). It is also assumed that depreciation and inflation affected the value of asset and profit of the SMEs in the same way. Although Akinlo (1996) adjusted for depreciation and inflation in order to demonstrate that the high profits posted by manufacturing industries after the introduction of structural adjustment programme (SAP) in Nigeria, which later metamorphosed to liberalisation were due to inflationary effects.

The computed ROI from the asset and profit of interviewed SMEs as shown in table 1 responds negatively to interest rates and inflation. It shows that the higher the interest rate and the inflation rates, the lower the ROI and the lower the interest and inflation rates, the higher the ROI. This trend ironically obeys the law of demand which ordinarily a rational SMEs would have preferred a stable ROI. On the surface the aggregate ROI of the 50 SMEs looks encouraging because it still provide some positive margin of safety (MOS) from the market interest rate with the exception of 1995, 2002 and 2004 when the MOS were negative. The margin of safety within the context of this study is the difference between ROI and interest rate and the level below which SMEs ROI must not fall below so as not to discourage owners of business from continuing in business.

### 5.2 Analysis of the Aggregate of 25 SMEs Partly Financed by Owners Funds and Retained Profit

This section analyses the group of 25 manufacturing SMEs that financed their operations using owners' funds and retained profits from their business over the years. It was gathered during the interview from the SMEs, that they had in the past secured loans from either the informal or formal sector as the report of the questionnaire also indicates, but have liquidated the loans because of the cost of servicing these loans. While some in this group said they tried but could not secure loans and were able to take advantage of suppliers' credit facilities which allows them some period of grace before paying for their raw material purchases without paying interest. Even when they were facing liquidity problems they were able to negotiate extension of payment dates to the suppliers for raw material purchases.

The computed ROI of the 25 SMEs that financed their operations with owners' funds and retained profits, from their business was used to compare the ROI of the 50 SMEs. The slight difference is in 1995 when the ROI for the 25 SMEs showed a negative value with the 50 SMEs and also in 2002.

### *5.3 Analysis of the Aggregate of 25 SMEs Partly Financed by Owners Funds and Loans*

The ROI for this group was also computed using the aggregate assets and aggregate profits posted for each year by the 25 manufacturing SMEs that their operations are partly financed by owners' funds and loans. The difference between the ROI and the interest rates for each year gave the MOS. From the table, it was observed that except for 1997, 1999, 2000 and 2006 years of operation, the computed MOS for this group of SMEs were all negative. The worst years of the MOS were 1995, 2002 and 2004 when the interest rates ranged from 19.47% to 20.48%. Apart from inflation and the naira depreciation, the factor that affected these SMEs most is the interest rates. Since they were partly financed by loans or credit facilities which they had to pay interest on every month or annually as the case may be, the cost of operation increased by the financial cost or the cost of borrowing which is the interest rate on the loan facility. This was unlike the first group that were most affected by the inflation rate and depreciation of the naira. In other words, this group of SMEs that financed their operation with owners' funds and loans were worse hit by the deregulation of interest rates and the depreciation of the naira.

It was observed from the computed ROI of the 50 manufacturing SMEs and the ROIs computed when the 50 SMEs were split into two groups that the first 25 SMEs ROI does not give an impressive performance. For the fact that the 25 SMEs that financed their operation with owners' funds and retained profits show a better performance than the other group that their operations were partly financed by owners' funds and loans does not put them above market and environmental risk. The MOS as can be seen in table 2 are still too small to cater for dividend assuming these businesses were to pay dividends to shareholders.

### *5.4 Discussion of Results*

The results of the analysis of this study revealed a lot of contradictions with the predictions of the theories behind financial market liberalisation in Nigeria and the envisaged policy outcomes. These contradictions include:

The interest rate deregulation negatively affected the performance of sampled SMEs. This was confirmed by the survey and operational costs of SMEs. A critical look at the interest rates differentials between Nigeria and the countries in the table 4 clearly shows that manufacturing SMEs in Nigeria stand no chance of competition with manufacturers from those countries. Their cost of finance is very low compared to that of SMEs in Nigeria. From the survey, the respondents that still had loan obligations stated they are finding it difficult to met the interest payments.

The deregulation of exchange rates did not discourage the importation and consumption of imported finished goods in Nigeria instead it increased the cost of financing raw materials from both local and international sources. This also significantly affected SMEs performance and is linked to one of the reasons why some SMEs changed their business objectives from manufacturing to retail business. This is because most of the sampled SMEs stated that it was cheaper to import than to manufacture the same product in Nigeria.

The financial market liberalisation did not solve the problem of access to finance for SMEs despite the increase in the number of financial institutions. It was observed from the analysis that the number of SMEs that had access to formal finance decreased after the implementation of the liberalisation policy. In fact the high interest rates was the reason given for the lack of interest in seeking formal or informal finance for their operations as most of the participants in the semi-structured interviews believed that it was better to rely on their retained profits for their operations. This they claimed was a better means of cutting down their operational costs.

Some economic constraints such as lack of access to modern manufacturing equipment due to low level of technology in Nigeria, absence of infrastructure and special SMEs funds faced by SMEs before liberalisation still persists after the implementation of the policy. The problem of infrastructure was even more compounded with the cut in the budgets for the provision of public utilities by the government. This is evidenced by the present deplorable state of infrastructure in Nigeria. The deplorable state of infrastructure has also significantly affected SMEs costs and their competitiveness because they had to embark on self-provision of some of these infrastructures. Furthermore, 85% of sampled SMEs reported that they were yet to benefit from the promised government support for SMEs due to corruption and favouritism on the part of government officials in charge of the programmes.

## **6. Concluding Remarks**

Base on the questionnaire survey and the semi-structured interviews results, this study concludes that financial market liberalisation policy that was meant to encourage the private sector hence manufacturing SMEs negatively impacted on their performance and survival in Nigeria. In other words, the policy partly contributed to the failures of

most manufacturing SMEs in Nigeria contrary to the policy objective of improved SMEs opportunities and access to finance. Instead of the competitive free-market rates to attract funds for investment as postulated by McKinnon & Shaw (1973), it became an obstacle that partly hinders the survival of manufacturing SMEs. The result of the study is further strengthened by the current global financial crisis and the call for regulation of the financial markets by some financial analysts in line with Stiglitz (1994; 2004) market failure rationale for government intervention.

### 6.1 Implication

The efficient allocation of financial resources and proper functioning of the financial market cannot be complete without government intervention. For the policy to have meaningful impact on private sector growth in Nigeria and other SSA countries, the government need to re-adjust and review the present policy of unregulated interest rates and floating exchange rates. In addition to taking appropriate steps in solving the infrastructure problems manufacturers faced by the increase in budgetary allocation to the maintenance and expansion of infrastructure in Nigeria.

### References

- Adenikinju, A. (2005). Analysis of the Cost of Infrastructure Failures in a Developing Economy: The case of the Electricity Sector in Nigeria. AERC Research Paper 148, African Economic Research Consortium, Nairobi.
- Adedipe, B. (2006). Capital Account Liberalisation: What Options for Developing Countries? *Central Bank of Nigeria Economic and Financial Review*, 44(4), 63-87.
- Agrawal, P. (2004). Interest Rates and Investment in East Asia: An Empirical Evaluation of Various Financial Liberalization Hypotheses. *Journal of Development Studies*, 40(3), 142-173. <http://dx.doi.org/10.1080/0022038042000213238>
- Ajibefun, I. A., & Daramola, A. G. (2003). Efficiency of Microenterprises in Nigerian Economy. AERC Research Paper 134, African Economic Research Consortium, Nairobi.
- Akinlo, A. E. (1996). The Impact of Adjustment Programme on Manufacturing Industries in Nigeria, 1986 1991: A Sample Study. *African Development Review*, 16, 73-93.
- Akinlo, A. E., & Odusola, A. F. (2003). Assessing the Impact of Nigeria's Naira Depreciation on Output and Inflation. *Applied Economics*, 36(6), 691-703. <http://dx.doi.org/10.1080/0003684032000056823>
- Amin, M., R. & Banerjee, S. (2007). Constraints and Contingencies of the Small Business: A Comparative Perspective. *International Business & Economics Research Journal*, 6(9), 59-66.
- Ayadi O. F., & Hyman, L. (2006). Financial Liberalization and Price Rigidity in the Nigerian Banking System. *Managerial Finance*, 32(7), 557-568. <http://dx.doi.org/10.1108/03074350610671557>
- Bello, W. (2007). The Post-Washington Dissensus. Foreign Policy in Focus. [online] Available: <http://www.fpif.org>. (July 21, 2007)
- Berry, A. (2002). The Role of the Small and Medium Enterprise Sector in Latin America and Similar Developing Economies. *Seton Hall Journal of Diplomacy and International Relations*, 104-119.
- Creswell, J. W., Plano Clark, V. L., Gutmann, M., & Hanson, W. (2003). Advanced Mixed Methods Research Designs. *Handbook On Mixed Methods In The Behavioral And Social Sciences*, eds. A. Tashakkori and C. Teddlie, 209-40. Thousand Oaks, CA: Sage.
- Dawson, J. (1994). Responses to Adjustment - the Marginalization of Small Enterprises in Nigeria. *Small Enterprise Development*, 5(2), 18-24. <http://dx.doi.org/10.3362/0957-1329.1994.015>
- De Vaus, D. (2002). *Surveys in Social Research. Fifth Edition Routledge*. London: Taylor and Francis Group.
- Ebhodaghe, J. U. (1996). Distress management and prevention strategies for the Nigerian banking system. Nigeria Deposit Insurance Company Quarterly.
- Ekpenyong, D. B. (2002). Performance of Small Scale Enterprises in Nigeria during the Structural Adjustment Programme Implementation: Survey Findings. *Journal of Financial Management & Analysis*, 15(1), 38-50.
- Emeseh, E., Ako, R., Okonmah, P., & Obokoh, L. O. (2010). Corporations, CSR and Self Regulation: What Lessons from the Global Financial Crisis. *German Law Journal*, 11(2), 230-258.
- Fry, M. J. (1988). *Money, Interest, and Banking in Economic Development*. Baltimore, Johns Hopkins University Press.

- Hellmann, T. F., Murdock K. C., & Stiglitz, J. E. (2000). Liberalization, Moral Hazard in Banking, and Prudential Regulation: Are Capital Requirements Enough? *The American Economic Review*, 90(1), 147-165. <http://dx.doi.org/10.1257/aer.90.1.147>
- Henry, P. B. (2003). Capital Account Liberalisation, the Cost of Capital and Economic Growth. *The American Economic Review*, 93(2), 91-96. <http://dx.doi.org/10.1257/000282803321946868>.
- Hübler, O., Menkhoff, L. & Suwanaporn, C. (2008). Financial Liberalisation in Emerging Markets: How Does Bank Lending Change? *The World Economy*, 393-415.
- Ikhide, S. I. & Alawode, A. A. (2001). Financial Sector reforms, Macroeconomic Instability and the order of Economic Liberalisation: The Evidence from Nigeria. AERC Research Paper 112. *African Economic Research Consortium*, Nairobi,
- Ikhide, S. I., & Yinusa, D. O. (1998). The Impact of Financial Liberalisation on the Finance of Small and Medium Scale Enterprises in Nigeria Research report 12. Ibadan: Development Policy Centre,
- Ikpeze, N. I., Soludo, C. C., & Elekwa, N. N. (2004). The Political Economy of the Policy Process, Policy choice and Implementation. in Soludo, C. C., Ogbu, O. and Chang, H. (eds), *The Politics of Trade and Industrial Policy in Africa*, Forced Consensus?, Canada: African World Press.
- Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using Mixed-Methods Sequential Explanatory Design: From Theory to Practice. *Field Methods*, 118(1), 3–20. <http://dx.doi.org/10.1177/1525822X05282260>
- Khatkhate, D. R., (1988). Assessing the impact of interest rates in less developed Countries. *World Development*, 16(5), 577-588. [http://dx.doi.org/10.1016/0305-750X\(88\)90187-8](http://dx.doi.org/10.1016/0305-750X(88)90187-8)
- Kyaruzi, I. S. (2006). Business Incubation and Clustering in Tanzania: Local Economic Growth, Entrepreneurship and Business Support Policies. PhD thesis submitted to the University of Birmingham, United Kingdom.
- Larrain, F. (1989). *Debt, Adjustment and Recovery: Latin America's Prospects for Growth and Development*. Oxford: Basil Blackwell,
- Le, V. D., & T. H. (1995). On Devaluation and the Possibility to Devalue the Currency of Our Country. *Journal of Economic Studies*, 3(205), 11-29.
- Lee, K. S., & Anas, A. (1991). Manufacturers' Responses to Infrastructure Deficiencies in Nigeria: Private Alternatives and Policy Options. In A. Chibber and S. Fischer, (eds.), *Economic Reform in Sub-Saharan Africa*, A World Bank Symposium.
- Lee, K. S., Anas A. (1992). Costs of Deficient Infrastructure: The Case of Nigerian Manufacturing. *Urban Studies*, 29(7), 1071-1092(22).
- Madill, J. J., Allan A. R., & George H. H. (2006). Women Entrepreneurs: Debt Financing and Banking Relationship. *Journal of Small Business and Entrepreneurship*, 19(2) 121-142.
- Mailafia, O. (2006). Capital Account Liberalisation: Reflections on Theory and policy. *Central Bank of Nigeria Economic and Financial Review*, 44(4), 11-29.
- Mambula, C. (2002). Perceptions of SME Growth Constraints in Nigeria. *Journal of Small Business Management*, 40(1), 58-65. <http://dx.doi.org/10.1111/1540-627X.00039>
- McEvoy, P., & Richards, D. (2006). A Critical Realist Rationale for using a Combination of Quantitative and Qualitative Methods. *Journal of Research in Nursing*, 11(1), 66–78. <http://dx.doi.org/10.1177/1744987106060192>
- Mckinnon, R. I. (1973). *Money and Capital in Economic Development*. Brookings Institution. Washington D.C
- Morgan, D. (1998). Practical Strategies for Combining Qualitative and Quantitative Methods: Applications to Health Research. *Qualitative Health Research*, 8, 362–76. <http://dx.doi.org/10.1177/104973239800800307>
- Musa, Y.W., & Danjuma, D. M. (2007). Small and medium scale enterprises: A veritable tool for sustainable job creation in Nigeria. *Journal of Business and Public Policy*, 1, 1-25.
- Mussa, M. (2000). *Factors Driving Global Economic Integration: Opportunities and Challenges*. Kansas City, Missouri.
- Noorbakhsh, F., & Paloni, A. (2001). Structural Adjustment and Growth in Sub-Saharan Africa: The Importance of Complying with Conditionality. *Economic Development and Cultural Change*, 49(3), 479-509. <http://dx.doi.org/10.1086/452512>
- Nwankwo, S., & Richards, D. (2001). Privatization: the myth off free market orthodoxy in Sub-Saharan Africa. *International Journal of Public Sector Management*, 14(2), 165-179. <http://dx.doi.org/10.1108/09513550110387453>



- Obadan, M.I. (2006). Globalization of Finance and the Challenge of National Financial Sector Development. *Journal of Asian Economics*, 17(2), 316-332. <http://dx.doi.org/10.1016/j.asieco.2005.11.002>
- Obokoh, L. O. (2008a). Small and Medium Sized Enterprises Development under Trade Liberalisation: A Survey of Nigerian Experience. *International Journal of Business and Management*, 3(12), 92-101.
- Obokoh, L. O. (2008b). Capital Account Liberalisation: Survey of SMEs Experience in Nigeria. 31<sup>st</sup> Institute for Small Business and Entrepreneurship Conference, 5<sup>th</sup>-7<sup>th</sup> November, 2008, Belfast Northern Ireland.
- Obokoh, L. O., & Ehiobuche, C. (2011). Globalisation of Finance: Analysis of the Impact of Exchange Rate Deregulation on Small and Medium Sized Enterprises Development in Nigeria. 56<sup>th</sup> International Council for Small Business (ICSB) World Conference in Stockholm, Sweden, June 15-18.
- Okome, M. O. (1999). State and civil society in Nigeria in the era of structural adjustment program. [online] Available: <http://www.icaap.org/iuicode?101.1.1.9>. (November 17, 2005)
- Olukoshi, A. (1996). Economic Crisis, Structural Adjustment and the Coping Strategies of Manufacturers in Kano, Nigeria. United Nations Research Institute for Social Development Discussion Paper 77.
- Owualah, S.I., & Obokoh, L. O. (2008). Tackling Youth Restiveness in the Niger Delta Region of Nigeria through Entrepreneurship. *Journal of Enterprising Communities: People and Places in the Global Economy*, 2(2), 168-179. <http://dx.doi.org/10.1108/17506200810879989>
- Pham, C. Q., & Nguyen, V. C. (1999). The Impact of Exchange Rate Changes on Balance of Payments in Vietnam Since 1989. *Journal of Economics Studies*, 12(259), 3-21.
- Porter, M. (1990). *The Competitive Advantage of Nations*, the Free Press, A Division of Macmillian, Inc. New York, NY.
- Prasad, E., Rogoff, K., Wei, S., & Kose M. A. (2003). Effects of Financial Globalization on Developing Countries: Some Empirical Evidence. Mimeograph, International Monetary Fund. Reinhart, C.M. (1995). Devaluation, Relative Prices, and International Trade Evidence from Developing Countries. *International Monetary Fund*, 42(2), 290-312.
- Rodríguez, F., & Rodrik, D. (2000). Trade Policy and Economic Growth: A Sceptic's Guide to the Cross National Evidence. CEPR Discussion Paper No. 2143. London, Centre for Economic Policy Research.
- Sachs, J. D., & Warner, A. (1995). Economic Reform and the Process of Global Integration. *Brookings Papers on Economic Activity*, 1, 1. <http://dx.doi.org/10.2307/2534573>
- Schneider, B. (2000). Conference Report on Capital Account Liberalization: A Developing Country Perspective. Overseas Development Institute, London, June 21, 2000.
- Shaw, E. (1973). Financial Deepening in Economic Development, New York: Oxford University Press. Siddiki, J. U. (2000). Demand for Money in Bangladesh: a Co-integration Analysis. *Applied Economics*, 32(15), 1977-1984(8).
- Stiglitz, J. E. (1998). More Instruments and Broader Goals: Moving towards the Post-Washington Consensus. United Nations University. World Institute for Development Economics Research, Helsinki.
- Stiglitz, J. E., Ocampo, J. A., Spiegel, S., Ffrench-Davis, R., & Nayyar, D. (2006). *Stability with Growth: Macroeconomics, Liberalisation, and Development*. New York: Oxford University Press.
- Stiglitz, J. E. (2000). Capital Market Liberalisation, Economic Growth, and Stability. *World Development*, 28(6), 1075-1086. [http://dx.doi.org/10.1016/S0305-750X\(00\)00006-1](http://dx.doi.org/10.1016/S0305-750X(00)00006-1)
- Stiglitz, J. E. (2004). Capital-Market Liberalisation, Globalisation, and the IMF. *Oxford Review of Economic Policy*, 20(1), 57-71. <http://dx.doi.org/10.1093/oxrep/grh004>
- Stiglitz, J. E., (2002). Capital Market Liberalization and Exchange Rates Regimes: Risk without Reward. *The Annals of the American Academy*, 579, 219- 248.
- Stiglitz, J.E., & Weiss, A. (1981). Credit Rationing in Markets with Imperfect Information. *The American Economic Review*, 71(3), 393-410.
- Taylor, L. (1983). *Structuralist Macroeconomics: Applicable Models for the Third World*. New York: Basic Books.
- Van Wijnbergen, S. (1982). Stagflationary Effects of Monetary Stabilization Policies: A Quantitative Analysis of South Korea. *Journal of Development Economics*, 10(2), 133-69. [http://dx.doi.org/10.1016/0304-3878\(82\)90014-1](http://dx.doi.org/10.1016/0304-3878(82)90014-1)
- Van Wijnbergen, S. (1985). Macro-economic effects of changes in bank interest rates: Simulation results

for South Korea. *Journal of Development Economics*, 18(2-3), 541-554. [http://dx.doi.org/10.1016/0304-3878\(85\)90072-0](http://dx.doi.org/10.1016/0304-3878(85)90072-0)

Watson, J., & Everett, J. (1999). Small Business Failure Rates: Choice of Definition and Industry Effects. *International Small Business Journal*, 17(2), 31-48. <http://dx.doi.org/10.1177/0266242699172002>

Winters, L. A. (2004). Trade Liberalisation and Economic Performance: An Overview, *Economic Journal*, 114, 4-21. <http://dx.doi.org/10.1111/j.0013-0133.2004.00185.x>

Zhang, X. (2006). Financial Market Governance in Developing Countries: Getting Political Underpinnings Right. *Journal of Developing Societies*, 22(2), 169-196. <http://dx.doi.org/10.1177/0169796X06065801>

Table 1. Aggregate Asset, Profits, Computed ROI of 50 Sampled SMEs, Interest Rates, Inflation Rates, Naira Exchange Rate to One US\$ and the Rate of Naira Depreciation to One US\$

Year	Asset in Naira (N'000)	Profit in Naira (N'000)	Return on Investment (ROI) (in %)	Interest Rate (COG)	(ROI)-(COG)= MOS (in %)	Inflation Rate	Naira Exchange Rate to One US\$	Rate of Naira Depreciation to One US\$
1994	Nil	Nil	Nil	21.00	Nil	57.00	21.87	(0.82)
1995	112292	20212.56	18.0	20.18	(2.18)	73.10	81.02	270.46
1996	168438	37056.36	22.0	19.74	2.26	29.10	81.25	0.28
1997	286345	71586.25	25.0	13.54	11.75	8.50	81.65	0.50
1998	314665	61359.68	19.5	18.29	1.21	10.00	83.81	2.65
1999	349628	82512.21	23.6	21.32	2.28	6.60	92.34	10.18
2000	371945	76620.67	20.6	17.98	2.62	6.90	100.8	9.16
2001	383449	71704.96	18.7	18.29	0.41	18.90	111.7	10.81
2002	473394	79056.80	16.7	20.48	(3.78)	12.90	126.26	13.03
2003	537948	123728.04	23.0	21.16	1.81	14.00	134.04	6.16
2004	645537	116196.66	18.0	19.47	(1.47)	19.40	134.73	0.52
2005	694755	154930.37	22.3	20.00	2.30	17.90	145.82	8.23
2006	771951	186040.19	24.1	18.70	5.40	12.60	148.46	1.81

Source: CBN Statistical Bulletin 2006 and computation from Semi-structured interview data

Table 2. Showing Aggregate Asset, Profits, Computed ROI of 25 Sampled SMEs\*, Interest Rates, Inflation Rates, Naira Exchange Rate to One US\$ and the Rate of Naira Depreciation to One US\$

Year	Asset in Naira (N'000)	Profit in Naira (N'000)	Return on Investment (ROI) (in %)	Interest Rate (COB)	(ROI)-(COB)= MOS (in %)	Inflation Rate	Naira Exchange Rate to One US\$	Rate of Naira Depreciation to One US\$
1994	Nil	Nil	Nil	21.00	Nil	57.00	21.87	(0.82)
1995	67375.20	13475.04	20	20.18	(0.18)	73.10	81.02	270.46
1996	104431.60	24541.42	23.5	19.74	3.76	29.10	81.25	0.28
1997	183260.80	49480.42	27	13.54	13.46	8.50	81.65	0.50
1998	191945.70	40308.59	21	18.29	2.71	10.00	83.81	2.65
1999	216769.40	52024.65	24	21.32	2.68	6.60	92.34	10.18
2000	230605.90	49810.87	21.6	17.98	3.62	6.90	100.8	9.16
2001	239676.40	47935.29	20	18.29	1.71	18.90	111.7	10.81
2002	284036.40	51694.62	18.2	20.48	(2.28)	12.90	126.26	13.03
2003	344286.70	86071.68	25	21.16	3.84	14.00	134.04	6.16
2004	413143.70	86760.17	21	19.47	1.53	19.40	134.73	0.52
2005	437695.70	105047.00	24	20.00	4.00	17.90	145.82	8.23
2006	501768.20	130459.70	26	18.70	7.3	12.60	148.46	1.81

Source: CBN Statistical Bulletin 2006 and computation from interview data

\*25 from the 50 SMEs that partly finance their operation from owners' funds and retained profits

Table 3. Showing Aggregate Asset, Profits, Computed ROI of 25 Sampled SMEs\*, Interest Rates, Inflation Rates, Naira Exchange Rate to One US\$ and the Rate of Naira Depreciation to One US\$

Year	Asset in Naira (N'000)	Profit in Naira (N'000)	Return on Investment (ROI) (in %)	Interest Rate (COB)	(ROI)-(COB)= MOS (in %)	Inflation Rate	Naira Exchange Rate to One US\$	Rate of Naira Depreciation to One US\$
1994	Nil	Nil	Nil	21.00	Nil	57.00	21.87	(0.82)
1995	44916.80	6737.52	15	20.18	(5.18)	73.10	81.02	270.46
1996	64006.44	12514.94	19.55	19.74	(0.74)	29.10	81.25	0.28
1997	103084.20	22105.83	21.44	13.54	7.90	8.50	81.65	0.50
1998	122719.40	21051.09	17.15	18.29	(1.14)	10.00	83.81	2.65
1999	132858.60	30487.56	22.95	21.32	1.63	6.60	92.34	10.18
2000	141339.10	26809.80	18.97	17.98	0.99	6.90	100.8	9.16
2001	153739.00	23769.67	15.46	18.29	(2.83)	18.90	111.7	10.81
2002	189357.60	27362.18	14.45	20.48	(6.03)	12.90	126.26	13.03
2003	193661.30	37656.36	19.44	21.16	(1.66)	14.00	134.04	6.16
2004	232393.30	29436.49	12.67	19.47	(6.80)	19.40	134.73	0.52
2005	257059.40	49883.41	19.41	20.00	(0.59)	17.90	145.82	8.23
2006	270182.90	55580.47	20.57	18.70	1.87	12.60	148.46	1.81

Source: CBN Statistical Bulletin 2006 and computation from interview data

\*\*25 from the 50 SMEs that partly finance their operation from owners' funds and loans

Table 4. Interest Rate Differentials (%)

Year	Nigeria	Europe	USA	Japan	United Kingdom
2000	17.98	4.9	6.4	0.5	5.9
2001	18.29	3.2	2.4	0.1	4.1
2002	20.48	2.2	1.6	0.0	4.1
2003	21.16	2.2	1.3	0.0	4.4
2004	19.47	2.2	2.9	0.0	4.9
2005	20.00	2.7	4.8	0.1	4.7
2006	18.70	3.7	5.4	0.5	5.3

Source: Extracted from Adedipe (2006) and CBN various issue

# A New Introduction to Supply Chains and Supply Chain Management: Definitions and Theories Perspective

Assey Mbang Janvier-James

Glorious Sun School of Business and Management, Donghua University

Shanghai 200051, China

E-mail: asseyjanvier@hotmail.com

Received: August 23, 2011

Accepted: October 14, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p194

URL: <http://dx.doi.org/10.5539/ibr.v5n1p194>

## Abstract

Supply Chain and Supply chain Management have played a significant role in corporate efficiency and have attracted the attention of numerous academicians over the last few years. Academic literature review discloses an important spurt in research in practice and theory of Supply Chain (SC) and Supply Chain Management (SCM). Connecting and informing on Supply Chain, Supply Chain Management and distribution Management characteristics have contributed to the Supply Chain integration. This integration has generated the approach of extended corporate and the supply chain is nowadays manifested as the cooperative supply chain across intercorporate borders to increase the value across of the whole supply chain.

This paper seeks to introduce supply Chain and Supply Chain Management. A Supply Chain and Supply Chain Management definition, theoretical, practical and measurement analysis are proposed. Several randomly selected refereed academic articles were methodically analyzed.

A number of key findings have arisen: the field is a comparatively new one; several researchers have different perception of the discipline; the consensus is lacking on the definition of the terms: the Supply Chain and Supply Chain Management are widely defined; contextual focus is mainly on the manufacturing industry; research methods employed are mostly theoretical conceptual; the findings also suggest that undertaking a theory view could make important contributions towards defining the scope of supply chains. The literature review in this research proposes critical lexicons that are mostly used in academic dissertation. These notions can be beneficial for academicians or organizations that are involve in Supply Chain Management business.

**Keywords:** Supply chain, Supply Chain Management, Supply chain management theories, Supply chain integration, performance, Efficiency measurements

## 1. Introduction

As a result of liberalization and the globalization of international trade, the production factors sourcing and consumer products from destinations across the world is enhancing the interdependence between producers and wholesalers on international Supply Chains. The effectiveness of those marine Supply Chains has also become crucial for favorable competition in the international markets that have arisen via the abolition of trade barrier (Fourie, Y., 2006). The distribution competitiveness in physical exchange with the rest of the world is now crucial for economic growth and development. This paper is aimed at presenting the development of Supply Chains and Supply Chain Management. It provides important definitions and theoretical analysis of both the Supply Chain and Supply Chain management.

## 2. Definition of Supply Chain and Supply Chain Management

### 2.1 Supply Chain

The development and functioning of Supply Chains have become important subjects for academicians with a resultant increase of definitions and phrases. Definitions that have been investigated for the intention of this thesis are as follows:

As reported by Beamon B. (1998), a Supply Chain is “a structured manufacturing process wherein raw materials are transformed into finished goods, then delivered to end customers”.

Tecc.com.au (2002) defines Supply Chain as “a chain starting with raw materials and finishing with the sale of the finished good”.

Bridgefield Group (2006) defines Supply Chain as “a connected set of resources and processes that starts with the raw materials sourcing and expands through the delivery of finished goods to the end consumer”.

Pienaar W. (2009b) defines Supply Chain as “a general description of the process integration involving organizations to transform raw materials into finished goods and to transport them to the end-user”.

The above definitions centralize on the core determinants of an effective Supply Chain. They connote the need for a provenance and a destination within which goods flow and accept the approach that overall Supply Chains start with resources (raw materials), combine a number of value adding activities and finish with the transfer of a finished goods to consumers.

The following definitions are more complicated. They include an extended view of a Supply Chain and integrate extra activities in the function of the Supply Chain.

Little, A. (1999) defines a Supply Chain as “the combined and coordinated flows of goods from origin to final destination, also the information flows that are linked with it”.

According to Chow, D. and Heaver, T. (1999), Supply Chain is the group of manufacturers, suppliers, distributors, retailers and transportation, information and other logistics management service providers that are engaged in providing goods to consumers. A Supply Chain comprises both the external and internal associates for the corporate.

Ayers, J. B. (2001) defines Supply Chain as life cycle processes involving physical goods, information, and financial flows whose objective is to satisfy end consumer requisites with goods and services from diverse, connected suppliers.

Mentzer, J., Witt, W. D., Keebler, J., Min, S., Nix, N., Smith, D. & Zacharia, Z. (2001) defines Supply Chain as a set of entities (eg. organizations or individuals) directly involved in the supply and distribution flows of goods, services, finances, and information from a source to a destination (customer).

The difference in approach between both definitions categories and the all-embracing descriptions combined in the latter render it very difficult to define a Supply Chain in practice if each of the definitions is to apply. Various systems of distribution organized to work through transport connections and nodes and recognized as Supply Chains in industry do not concede any of these definitions.

For the objective of this study, it is consented that the role Supply Chain is to add value to a product by transporting it from one location to another, throughout the good can be changed through processing.

## 2.2 Supply Chain Management

The connections and nodes in a Supply Chain achieve functions that contribute to the value of the goods transporting through the chain and thus its achievement. Any connection that does not carry out well reduces the overall effectiveness of the whole Supply Chain.

The notion of Supply Chain management as used in many research is usually linked with the globalization of producing and the penchant for manufacturers to source their inputs planetary, which necessitates management of profitable ways of regulating worldwide flows of inputs or outputs. The principal focus of market competition in such situations is not only between goods, but between the Supply Chains delivering the goods. As competition in international markets is progressively dependent upon the of arrival time of goods as well as their quality, coordination between suppliers and distributors has become an important characteristic of the Supply Chain. As the customer satisfaction is a crucial benchmark of the success of the Supply Chain, effective management of the linking processes is crucial (Trkman, P., Stemberger, M. and Jaklic, J., 2005). Additionally, market uncertainty necessitates Supply Chains to be easily flexible to changes in the situation of trade. Such flexibility in supply requires effective Supply Chain Management.

Supply Chain management is aimed at examining and managing Supply Chain networks. The rationale for this concept is the opportunity (alternative) for cost savings and better customer service. An important objective is to improve a corporate's competitiveness in the global marketplace in spite of hard competitive forces and promptly changing customer needs (Langley, C., Coyle, J., Gibson, B., Novack, R. and Bardi, E., 2008).

Numerous Supply Chain management definitions *have been presented in the academic literature.*

“Alberta efuture centre” asserts that Supply Chain Management (SCM) is the act of optimizing activities across the Supply Chain. Ayers, JB. (2001) reported that Supply Chain management is the maintenance ,planning, and Supply Chain processes activity for the satisfaction of consumers needs.

Ganeshan, R, and Harrison Terry P., (1995) has defined Supply Chain Management(SCM) as a chain of facilities and distribution alternatives that performs the functions of obtainment of products, transformation of these products into intermediate and finished goods, and the distribution of these finished goods to customers. Lee Hau L., and Corey Billington (1995) declare that Supply Chain Management (SCM) incorporates the integration of activities taking place among facilities network that acquire raw material, transform them into intermediate products and then final goods, and deliver goods to customers through a system of distribution. According to Christopher M. (1998) supply chain refers to the organizations network that are involved in the diverse processes and activities that generate value in the form of goods and services in the hands of the end customer. Supply Chain Management (SCM) is the “strategic and efficient coordination of the conventional business functions and the strategies across these business functions within a specific corporate and across businesses within a supply chain, for the aims of developing the long-term performance of the corporate and the supply chain as an entire.

According to Grant, D., Lambert, D., Stock, J. and Ellram, L. (2006), Supply Chain management refers to corporate business processes integration from end users through suppliers that provides information ,goods, and services that add value for customers.

The Supply Chain management (SCM) is defined by the Supply Chain Forum (SCF) as the integration of key business processes from end user through suppliers that provide goods, services and information that add value for customers.

The Supply Chain Management Professionals’ Council (2009) asserts that Supply Chain management (SCM) includes the designing and management of all activities involved in sourcing and purchasing, transformation, and all logistics management activities. Principally, it also includes coordination and partnership with network partners, which can be suppliers, mediators, third party service providers and customers. Fundamentally, Supply Chain management (SCM) coordinates supply and demand management within and across corporate

Even though all the definitions given above are satisfactory, most do not emphasize the importance of effectiveness in Supply Chain management (SCM). Thus for the aim of this paper, the following definitions were used as the foundation for developing the model for assessing Supply Chain effectiveness.

Little (1999) declares that Supply Chain management (SCM) aims at increasing value contribution to the customer while concurrently optimizing functional costs of the Supply Chain.Computerworld (2001) defines Supply Chain management (SCM) as the management that allows an organization to get the right products and services to the location they required on time, in the suitable quantity and at a satisfactory cost. Effectively managing this process involves supervising connections with customers, suppliers and controlling inventory, forecasting demand and getting regular feedback on what is occurring at every connection in the chain.

Kitsolutions (2003) defines Supply Chain management (SCM) as providing the right goods or services, to the right location, in the right quantity, at the right time and at the right cost.

According to Simchi-Levi, D., Kaminsky, P. & Simchi-Levi, E. (2003),Supply Chain management(SCM)refers to “a set of methods used to effectively coordinate suppliers, producers, depots, and stores, so that commodity is produced and distributed at the correct quantities, to the correct locations, and at the correct time, in order to reduce system costs while satisfying service level requirements. The fundamental notion of these definitions is that a Supply Chain must be controlled in order to be fast and trustworthy, cost-effective, and flexible enough to meet customers’ requirements.

Insert Figure 1 Here

Dependability/reliability is generally more crucial than speed in the Supply Chain and it is, then important to temperate global “velocity” with the need for dependability

Although, there are particular situations when “speed” is important in a Supply Chain and the “speed” pertinence can therefore not be disregarded. Speed is crucial in a Supply Chain under the following situations, when: the products are: spoilable, subject to rapid extinction, needed on short notice, valuable in connection to its mass, very expensive to manage. The demand for products is: changeable, occurs intermittently, better than the limited supply for short periods of time, cyclical. The following problems occur during distribution: risk of stealing, physical damage, high rates of interest for long transportation times, special care of the products is required while in transportation.

Cost is consistently crucial, while consumer satisfaction is important to continued business. Thus in building the model for assessing Supply Chain effectiveness, the factors used to establish the effectiveness of a Supply Chain are then speed, dependability/ reliability, cost and consumer satisfaction. If speed is not crucial to the Supply Chain under examination, it can clearly be count of the estimation.

Together with the product surging down the Supply Chain, information surges in both sides along the Supply Chain. For Supply Chains to function correctly, it is crucial that information surges smoothly along the Supply Chain and that the diverse corporates are ready to share information with one another

### 3. Supply Chain and Supply Chain Management Theories

#### 3.1 General Supply Chain Model

The objective of developing the General Supply Chain Model (Caddy and H.1999) is to provide a complete understanding of supply chains, in terms of both their management and their operation. A literature review of supply chain and supply chain management frameworks and models disclose that there is not an already accepted general and extensive supply chain model (Caddy and H., 1999.). Supply chain models seem to focus on only one specific aspect of the supply chain: organization strategy, information technology and individual factors. While each of these aspects is considered important in its own right, each factor independently does not provide a comprehensive view of supply chains management. Combining the above cited aspects result in the development of a general supply chain model, in which each of the aspect provides a disconnected as well as connected combined contribution. The general models represented below integrate into the model the interplay among the three aspects. Diverse effects are generated given the characteristic and level of interplay. Furthermore, the characteristic and level of interplay would be uncertain on organizational culture, the condition in which the organization operates and the features of the supply chains used in the exchanges that happen among organizations.

Insert Figure 2 Here

#### 3.2 Supply Chains and General Systems Theory

An assessment of an important number of existing and representative models of supply chain management shows that a developed stage of development of a supply chain model has not been achieved as yet. There is a convergence to a commonly accepted normative model of supply chains and management (Caddy and H.1999). Essentially, it is considered suitable that another strategy be adopted to use the principles and theories of general theory to make sure whether a more fundamental supply chain framework can be created. Moreover, the problem here is whether the use of general theory to this field would provide supplementary awareness in terms of the efficient management of supply chains. Ludwig von Bertalanffy (1969) developed approach about systems.

Systems with equivalent factors could still be distinct for the reason that a different adjustment of their factors often generating different interplay between the factors. In most cases natural world all the systems were open systems. A crucial general systems concept that have arisen from Ludwig von Bertalanffy(1969). Research is the theory of determinable boundary that divides a system from its environment.

Yourdon E. (1989) declared that in order for a system to be recognized a living system, it should include the following sub-systems: The duplicator; the boundary; the ingestor ; the distributor; the producer ;the matter-energy storage sub-system various sorts of matter-energy; the extruder ; the motor ;the supporter ; the input transducer ;the internal transducer ; the channel ;the decoder ; the associator ; the decider ; the encoder ; the output translator .

Yourdon E. (1989) adapted the Miller, J.G. (1978)'s work to the information systems field. In the process, Yourdon E. (1989) improved this discipline in terms of a higher order of appreciation of what the concept "information system" signifies. It would be a fascinating exercise to re-adapt Yourdon E. (1989)'s research on supply chains to determine if these sub-systems really exist and to assess the level of the contribution that each sub-system makes to the favorable development and management of a supply chain. In the case of the duplicator sub-system, even though the supply chain is an artificial construct, as such it does not reduplicate itself, supply chain lifetime are not inevitably ambiguous. As such, the following interrogations come to mind: What processes do corporates utilize to invigorate supply chains? What are the indexes that give information about supply chain obsolescence? The General Supply Chain Model indicates that supply chains change with time. With the actual condition of new information technology, nowadays supply chains are performed distinctively to the way they were performed some time ago. Furthermore, the nature of the connections among organizations within the supply chain would also be expected to improve over time.

Yourdon E. (1989) also debated the use of the following general systems theory principles to the discipline of information systems:

First principle: The more complex a system is the less compatible it is to changing environments.

Second principle: The larger the system, the more resources are necessitated to support that system.

Third principle: Systems generally include other systems, and are in themselves factors of larger systems.

Fourth principle: Systems develop, with apparent implications for the second principle.

It is recognized that these principles have application to the discipline of supply chain and supply chain management

### *3.3 Others Theory and Practice of Supply Chain Management*

Many articles in connection with the theory and practice of Supply Chain Management (SCM) have been reported over the period of last 20 years, but the subject matter is still under important improvement and discussion. Richard Lamming (1996) has given a review on “lean supply chain” in which “Lean supply chain” has been defined as “beyond collaboration”. “Lean supply” is the system of procurement and supply chain management required to build lean production. Ben-Daya M., Hariga M. and Khursheed S. N.( 2008) investigated the subject in specific context, i.e. the Industrial District (ID) that constitutes a specific production model where complex Supply Chain Networks (SCN) can be analyzed. Supply Chain collaboration may take on many forms in industrial districts (ID) and may produce many benefits.

Vaart and Pieter (2003) has pointed out the importance for an inter-disciplinary approach, integrating the relational and technical aspects from the corresponding fields of system dynamics and partnership in order to deliver better order replenishment performance. Gunasekaran and Ngai (2005) demonstrated that E-Business, product, and service-quality have an important direct impact on customer behavioral intentions to buy again. Balakrishnan and Cheng (2005) updated the approach based on software that provided solutions in complicated environments with several products and obstacle situations. Nagarajan and Sobic (2004) reviewed literature in connection with buyer-vendor organization models that have used quantity concession as organization mechanism under settled environment and categorized the diverse models.

Based on this approach of Supply Chain Management (SCM), the current literature was investigated, in order to identify the extent to which these fundamental elements were present in Supply Chain Management (SCM) academic research to date. A review of prior studies provides the foundation for how this review extends our appreciation of Supply Chain Management (SCM) research.

Burgess K., O. J. Singh and R. Koroglu (2006) reviewed 100 essays from 614 available articles found in the ABI/Inform Database across (1985 to 2003). Their sample addressed manufacturing and consumer products businesses, and the research articles reviewed by them addressed a more closely defined operations management approach to Supply Chain Management. They classified the essays into four categories: Descriptive features of Supply Chain Management, Definition issues, Theoretical concerns and Research technical issues. They found Supply Chain Management to be an approximately new field with growth in interest from analyst in the recent past. The significance of this research in opposite to Burgess K., O. J. Singh and R. Koroglu (2006) is that instead of sampling 100 essays from a pool of 614 over a 5 year period, I investigated 588 essays over 18 years. This provides a larger foundation from which to map out the evolution of the Supply Chain Management (SCM) field. It also helps to measure gaps in the literature, thereby underlining the importance and strength of this study.

Carter and Ellram (2003) examined the essays published in the Journal of Supply Chain Management for the period of 1965 to 1999. Their purpose was to offer a greater appreciation of the development of procurement and supply research over the first 35 years of the existence of the Journal of Supply Chain, and to provide counseling and recommendations for future supply management research. They demonstrated that nearly 90% of the journal essays under study consisted of literature, methodology, and exploratory studies. They further found that the use of hypothesis testing had increased significantly over the period of 1989-1999, yet they think that a greater use of hypothesis testing and the analytic method is advised as the Supply Chain Management discipline continued to develop. Carter and Ellram (2003) further advised more literature reviews leading to the introduction of analytical frameworks of supply management, and the use of complex research modeling methods.

They categorized the articles based on a adjustment of the classifications used by ISM, and proposed 32 classifications for clear classification, which has proved to be a achieved and has been used in prior literature reviews by many authors. The authors conclude that procurement and supply management are developing. It is important to note that the authors have regularly used the terms “procurement” and “supply” management, which talks a lot about the stage of development of the Supply Chain Management discipline.

Croom S., Romano P, and Giannakis M. (2000) has examined 84 studies on Supply Chain Management (SCM) in terms of level of analysis and research approaches, but the time period for their data collection is not clear. Their research represents an attempt to classify the Supply Chain Management (SCM) literature.

Important improvement has taken place both in the theory and practice of Supply chain Management since this attempt, making it important for reviews of current literature. Finally they depicted and classified the research techniques into two dimensions: empirical and theoretical do not provide the number of essays linked with each level of study.



Rungtusanatham M. J., Choi T. Y., D. G. Hollingworth, Z. Wu and C. Forza. (2003) achieved a review of 285 Supply Chain Management (SCM) articles published in six operations management journals during a period of 21 years (1980-2000). They reported the development of considerable changes in the last 5 years of their sample period, and those two subjects stood out as indicating fastest domination to eminence operations strategy and supply chain management.

They found that the Supply Chain Management (SCM) related essays increased considerably after 1990s, thereby indicating the increased interest of researchers in this discipline and speeding up development of this discipline. It indicates that Supply Chain Management (SCM) is a developing field, and offers many opportunities in research. Giunipero, Larry C., Hooker, Robert E.; Joseph-Matthews, Sacha; Yoon, Tom E.; Brudvig, Susan (2008) in a last ten years literature review of Supply Chain Management (SCM) reported that the literature is still very burst and even though many studies claim to debate supply chain issues, most of the current research only investigates one connection of the chain, or more mainly only focuses on one factor in the supply chain performance mix. They indicated that the Supply Chain Management (SCM) literature reviewed by them disclosed many gaps identified by them as: One-tier examination; Small sample sizes; Lack of longitudinal studies; Limited methodological analysis; and Limited global supply chain analysis.

In perspective of this discussion, the researchers deduced that a broader perspective of Supply Chain Management (SCM) is required in order to develop a wider unanimity and resolve the current conceptual and research approach confusion. In opposite to single journal review, or confined random review, this study surveys 30 academic journals and reviews 588 research published from 1991 to 2008, thereby covering the whole period of Supply Chain Management (SCM) evolution to its development as a strong field.

In summary, this study expands the prior literature reviews by:

- Focusing on diverse aspect Supply Chain Management work in academic journals.
- Reviewing the current 20 years period during which Supply Chain Management grew as an academic research and discipline in this field gained importance and enhanced significantly.
- Providing an examination of the research techniques, using an established subject classification scheme and reviewing academic publication and providing awareness in to the research methods and data analysis method used in academic literature.

#### **4. Supply Chain Integration, Pull and Push Systems, Efficiency, Effectiveness, Productivity and Performance**

##### *4.1 Supply Chain Integration*

Supply Chain integration considerably increases the capability of managers to define the proneness in the chain in order to impact improvements. However, without a trustworthy method to help managers in detecting obstacles along the Supply Chain, it becomes more complicated for managers to acquire the knowledge they want for benefiting fully from Supply Chain integration. It is with this objective clairvoyance that the model developed is at first designed.

Integrating the connections of the Supply Chain into a complete functioning system conceivably improves the flow of goods and information in the organization. That generates a more effective Supply Chain. Thus, regardless of whether a Supply Chain includes links operated by many service providers or it is under the control of a unique management connection, integration is favorable for the increase of effectiveness.

The objective of Supply Chain integration is to accommodate functions across the Supply Chain in consideration of improving performance.

There are mainly two types of integration, i.e. horizontal and vertical integration. Horizontal integration refers to the incorporation into a single corporate of several corporates involved in the similar level of production and sharing resources at that level, while vertical integration refers to the incorporation into a single corporate of several corporates involved in all aspects of a good's production from raw materials to distribution (Answers.com, 2006b).

The consent of specialists is that vertical Supply Chains integration can generate greater efficiency (Stonebraker and Liao, 2006) if it decreases an inadequately long Supply Chain in connection with insourcing and outsourcing decisions.

According to Panayides P. (2006) integration can provide agility along the Supply Chain.

According to the Agility Forum, agility refers to capacity of an organization to develop in a gradually changing, changeable business environment (Agility Forum, 1994). This definition shows that agility along a Supply Chain (SC) generates greater flexibility and greater levels of customer satisfaction.

Even though many academicians have emphasized the importance of Supply Chain integration, but the method to effectively assess integration is lacking in the literature. There is also a need for further examination into the extent to which organizations can and have been integrated along Supply Chains and the efficiency implications (Panayides P., 2006).

#### 4.2 Push, Pull and Push-pull Systems

*Push-based Supply Chain* makes manufacture and distribution choices according to long-term predictions based on orders. Push-based Supply Chain has a long react time which can generate the inability to meet changing demand patterns and the product extinction or overdone inventories. (Simchi-Levi, D., Kaminsky, P. and Simchi-Levi, E., 2008).

In a *pull-based Supply Chain (SC)* manufacture and distribution are accommodated with valid customer demand. Effective information flow about customer demand minimizes inventories. Pull system allows lead time diminution due to better anticipation and diminishing in variability (Simchi-Levi, D., Kaminsky, P. and Simchi-Levi, E. 2008)

Thus, pull system minimizes inventories, improve the ability to manage resources, and reduces system costs compared to similar push system. On the other side, pull system is complicated to implement when lead times are long making reaction to demand information impracticable. In pull-based system it is commonly more complicated to take economic benefit in manufacturing and transportation since they are not designed far ahead in time. (Simchi-Levi, D., Kaminsky, P. and Simchi-Levi, E., 2008).

According to Simchi-Levi, D., Kaminsky, P. and Simchi-Levi, E.,(2008), *Push-pull-based Supply Chain* ( strategies take benefits of both push and pull systems). The boundary between pull-based levels and push-based levels is known as “*push-pull boundary*”.

Insert Figure 3 Here

#### 4.3 Effectiveness, Efficiency, Productivity and Performance

The expressions effectiveness, efficiency, productivity and performance are generally used correspondently in academic literature. But, their significations are different. In consideration of differentiate between the expressions and use them accurately, definitions found in academic literature are first examined. The definition used as an assumption for the consecutive research is then given for each expression.

Of the four expressions, the two that are mostly confounded are efficiency and effectiveness. Talley, W. (1994) emphasizes the functional goals of public transit corporates and states that these goals have been categorized either efficiency or effectiveness goals. He persists by providing definitions for both of these expressions. Effectiveness refers to how well the transit corporate provides service to the consumer, while efficiency refers to how well the transit corporate utilizes its accessible resources.

Chow, Heaver and Henriksson (1994) develop these definitions by adjoining their own definitions of the expressions efficiency and effectiveness. According to them, effectiveness refers to the extent to which a goal has been accomplished and efficiency refers to the degree to which resources have been used concisely. In other words, efficiency is “doing things correctly” and effectiveness is “doing the correct things” (Chow, D., Heaver, T. and Henriksson, L.1994).

As reported by Schenk R. (2007), value is the basis for economic efficiency. Efficient change is the change that enhances value and an inefficient change is the change that decreases value. A circumstance that is efficient may be ineffective when examined on different criterion. Schenk persists by asserting that efficiency is never perfect; it is always relative to some criteria.

The expression “effectiveness” will be used to depict the extent to which an aim is accomplished, while the expression “efficiency” will be used to depict the resource economy utilization in achieving goals when examined on particular identified criteria.

The significations of the expressions productivity and efficiency are also generally confounded with each other.

According to Bridgefield Group (2006) productivity refers to overall measurement founded on an output quantity generated by a given quantity of input. CPE Globalization Briefs declare that productivity is generally formulated as a ratio of outputs over inputs. Increased output as an effect of the similar amount of input indicates more efficient use of a given set of resources because of process improvements or other accomplishment.

In this study, productivity is considered as a measurement of efficiency.

The United States Agency for International Development (2009) defines “performance” as the current output and quality of work made. Even though this definition is considerably similar to that used for efficiency, it is crucial to

note the key differences. Performance assesses output, while efficiency assesses the method in which output is carried out. Performance measurement refers to the process of evaluating action, where measurement is the process of assessment and action leads to performance (Neely, A., Gregory, M. and Platts, M., 1995). Logistics performance measures are key indicators of the work carried out and the results achieved in an organizational unit (Forbes.com, 2006).

With the development of globalization many nations started to trade without restriction. Nations realized that they are more fortunate if they specialize in certain products and trade their surplus production for the other products they need. Through specialization corporate become more creative and the globe's limited economic resources are used more efficiently. Resources are scarce and therefore attention must be paid to use them efficiently. Because efficiency assesses the economy of resource utilization in achieving objectives when examined on particular identified criteria, it was decided that Supply Chain will be evaluated in terms of efficiency.

#### *4.4 Supply Chain Efficiency*

A Supply Chain efficient management has been gradually recognized as a key factor in characterizing good and service offerings and acquiring competitive advantage for corporates (Christopher, 1998).

It requires close integration of internal operational within corporate and efficient relationships with the external functions of members in the Supply Chain (Lee, 2000). It is also crucial that Supply Chains do not remain static, but rather develop continually based on the changing market and customer requirements (Little, 1999).

It is crucial to define Supply Chain efficiency in consideration of understanding what the model developed measurements. By associating the definitions for a Supply Chain and efficiency, the derivable definition of Supply Chain efficiency is the regulation on resource use founded on particular criteria while goods are moved from one location to another, in the path of which movement the goods may be changed through processing.

Performance of the whole Supply Chain is an essential factor in achieving an effective Supply Chain. It is therefore crucial to use the linked resources of the Supply Chain members in the most efficient technique possible to provide competitive and cost-effective goods and services. Wong, W., & Wong, K. (2007). defined Supply Chain as the efficiency which includes diverse performance measurements related to the Supply Chain members, also the coordination and integration of the performances of those associates.

The importance to develop efficiency in a Supply Chain has generated the development of approaches and techniques to assess Supply Chain efficiency. These approaches can be used to assess the levels of performance along Supply Chains and help their supervisors to identify deficiencies in order to improve the functioning of the Supply Chains.

Although there is a diversity of criterion that can be used to assess the Supply Chain efficiency, for the aim of this study the main criterion used are speed, reliability, and cost and customer satisfaction. While, speed, reliability, cost and customer satisfaction on their own are only measurements of effectiveness, when analyzed in terms of the impact they have on resource utilization in a Supply Chain they can be used to assess efficiency. For instance, if the reliability, speed, and other features of a connection in a Supply Chain satisfy the needs of its consumers at the lowest cost, that connection can be considered as efficient. The lowest cost would render the connection efficient for society. If only the lowest budgeting cost to the entire service provider is included, the connection would be efficient.

Economic efficiency refers to the situation where the trade-off between speed, reliability, and cost is also achieved perfectly and where no factor can lead to further development without influencing negatively on another factor.

There is a direct connection between cost and speed and cost and reliability. Accordingly, as reliability and speed increase, costs will generally augment and with a decrease in costs, reliability and speed will generally decrease. This signifies that a corporate has to make a compromise between the various criterions for Supply Chain efficiency. If these three components are seen in combination, then Supply Chain efficiency is achieved, if customer satisfaction is increased with the optimum combinations of reliability, speed, and costs. While, for instance, speed may increase in the Supply Chain, if the marginal costs required by the speed augment are in exuberance of the marginal consumer satisfaction achieved then the Supply Chain is not effective at the maximum speed.

## **5. Current Supply Chain Performance and Efficiency Measurements**

### *5.1 Current Supply Chain Performance Measures*

In the creation of a model to evaluate the Supply Chain efficiency, it is important to build the model accurately. Every model stage should be accurately built and each of model's function must be exhaustively examined to make sure that it achieves what it planned to do.

There is a distinction between a performance measurement and an efficiency measurement (performance assesses output, while efficiency assesses the method in which output is achieved). But, performance measures can be utilized in conjunction with efficiency measures to assess the Supply Chain efficiency.

According to Abu-Suleiman, Boardman and Priest (2004), performance measurements provide a basis to assess alternatives and identify decision criterion

The general information collected through performance measurements can be used to help the corporate in making correct decisions and aid to ensure that the corporate continues to expand its market position.

Abu-Suleiman, Boardman and Priest, (2004) reported that feedback is a fundamental part of any process. An efficient Supply Chain performance measurement system enables suitable controlling of business processes.

The feedback received is utilized to analyze current progress to projected or budgeted values, simplify benchmarking against manufacturing best practices, and to identify weak performance and improvement alternatives.

Finally, the performance measurement must direct employees towards higher productivity by stimulating and recompensing them for good performance (Kussing U., 2009). The performance measurement has to galvanize employees to strive towards greatness and in doing so determine weak parts in the Supply Chain.

The aims of a performance system are as follows (Rolstadas, 1995):

- It must support the decision-making process, by showing where to operate, how to operate, and by controlling the impact of implemented action plans.
- The system must control the impact of strategic plans, so that amendments can be made to guarantee the accomplishment of long-term goals.
- Performance measurement is necessary for internal objectives and for satisfying requirements from diverse external stakeholders.
- The system must have analytic properties, so that alarm can be given in advance of declining business performance.
- Performance measurement is a constituent of a constant improvement process.
- Measurement of improvement has a stimulative impact on the labor force of a business and is important to substantiate further effort in any amelioration process.
- The evaluation of performance is important for comparison and for identifying performance apertures
- Records must be kept of all corporate activities, and then they can be provided on request to suppliers and customers. A record of supplier performance can be used to provide input to their amelioration processes.

The above list of objectives should be considered during the development of a performance measurement system (Rolstadas, 1995).

### *5.2 Current Supply Chain Efficiency Measurements*

Every components of the Supply Chain communicate to meet the needs of the sellers and the buyers of the goods transiting through the chain. Those components are interconnected and have a cause-and-effect link with one another. Thus for all component to achieve its maximum value and simultaneously contribute to the increase of the value of co-components in the Supply Chain there should be a high level of integration between the components (Qukula T., 2000). A poor connection in the Supply Chain has a negative impact on the performance of all the components over the Supply Chain. Accordingly the efficiency of each individual component must be measured in order to evaluation the efficiency of the whole Supply Chain. However, in order to augment the level of efficiency in the Supply Chain, it is crucial to be able to assess that level over all the connections. Spekman, R., Salmond, and D., Kamauff, J. (1994) assert that this presents a challenge for assessment (as the efficiency of Supply Chain cannot be assessed by evaluating single transactions, but only through the measurement of the efficiency of the transactions conjointly along the whole Supply Chain . Therefore, when conceiving a model for assessing Supply Chain efficiency, it is crucial to choose one that includes all appropriate transactions.

Little (1999) emphasizes another barrier to assessing Supply Chain efficiency; particularly, that the measurement of efficiency are not always used in a equitable way to reveal efficiency. Commonly, one measurement is over-stressed leading to erroneous overall measurement of the Supply Chain efficiency. Little (1999) continues by arguing that the risk of this increases when no unique body supervises the whole Supply Chain. Thus, when assessing the Supply

Chain, the technique conceived must assess each connection in terms of the exact proportionality of importance to the efficiency of the Supply Chain.

According to Kotler, P. (1984), from a marketing view, corporates achieve their objectives by satisfying their customers with considerable effectiveness and efficiency than their competitors. Accordingly corporates can benefit from assessing the level of effectiveness and efficiency throughout their whole Supply Chains.

Corporates deal in various products and Supply Chains exist for every product. Little (1999) denoted that Supply Chains in various sectors of industry have distinct features that vary within those sectors. Thus, Supply Chain design should acutely be accommodated both to the particular manufacturing and to the individual situations of each corporate (Little, 1999). It is also crucial that each service provider in a Supply Chain should use identical method for assessing efficiency in consideration of providing significant analyzing of the efficiency of the connections. Accordingly, when choosing a model for assessing Supply Chain efficiency, it is crucial that corporates choose a model that can be used throughout all the connections of the Supply Chain.

Another concern when assessing Supply Chain efficiency is the method for the development of the Supply Chain. Supply Chains that functions well for network throughput might become weak if responsiveness, flexibility, and measurability have not been planned into the system (Barloworld Logistics, 2005). Thus it is crucial to plan Supply Chains.

According to Potter, Mason, & Lalwani. (2002), the measurement used to determine efficiency must also be explicit in the nature of the information they examine. Generally quantitative measurement is the only ones used.

According to Lambert, D., & Pohlen, T. (2001). The absence of a broadly accepted definition for Supply Chain management and the complication related to overlapping Supply Chains make Supply Chain efficiency assessment complicated. Furthermore, the absence of Supply Chain orientation, the complication of capturing assessment across diverse connections, the indisposition to share information among corporates, and the incapacity to capture performance by product, customer, and Supply Chain make precise Supply Chain efficiency assessment more complicated. Another important contributor to the lack of significant Supply Chain efficiency measures is the inexistence of a technique for developing such measurements.

## 6. Summary and Conclusion

Supply Chains are a critical part of world trade. However, a Supply Chain in itself is insufficient. Only those that are efficient will succeed. In consideration of a Supply Chain to be efficient, it is crucial to understand its principal functions as well as the role played by each function in the Supply Chain's overall efficiency. Accomplishing this makes it facile to identify obstacles and impact the essential improvements.

The literature review in this study presents important jargons and theoretical approaches that are generally used in academic dissertation. In consideration of clarifying the research each expression is defined in the context where it is used throughout the article. The criterions on which the Supply Chain efficiency assessment is based are identified and crucial factors that must be considered when building an efficiency measurement are emphasized.

## References

- Abu-Suleiman, A., Boardman, B., & Priest, J. (2004). A framework for an integrated Supply Chain Performance Management System. *Industrial Engineering Research Conference*. Houston:TX. Refereed Research Article and Presentation.
- Agility Forum. (1994). International symposium on fresh produce supply chain management. [Online] Available: <http://www.fao.org/AG/ags/subjects/en/agmarket/chiangmai/abstracts.pdf> (March 21, 2011).
- Answers.com (2006). Horizontal integration. [Online] Available: [http://www.answers.com/main/ntquery;jsessionid=4q9dhzg4cmr8?name=horizontal integration & curtab=2222\\_1 & sbid=lc06a](http://www.answers.com/main/ntquery;jsessionid=4q9dhzg4cmr8?name=horizontal+integration+&curtab=2222_1&sbid=lc06a) (June 13, 2011).
- Ayers, J. B. (2001). *Handbook of Supply Chain Management*. Boca Raton, Fla.: The St. Lucie Press/APICS Series on Resource Management.
- Balakrishnan J., & Cheng, C. H. (2005). The theory of constraints and the make-or-buy decision: an update and review. *The Journal of Supply Chain Management*, 41(1), 40-47. <http://dx.doi.org/10.1111/j.1745-493X.2005.tb00183.x>
- Barloworld Logistic. (2005). *Supply chain foresight 2005*.
- Beamon, B. (1998). Supply Chain design and analysis: Models and methods. [Online] Available: <http://www.damas.ift.ulaval.ca/~moyaux/coupfouet/beamon98.pdf> (July 21, 2011).

- Ben-Daya M., Hariga M., & Khursheed S. N. (2008). Economic production quantity model with a shifting production rate. *International Transactions in Operational Research*, 15(1), 87-101. <http://dx.doi.org/10.1111/j.1475-3995.2007.00620.x>
- Bridgefield Group. (2006). Bridgefield group erp/Supply Chain (SC) glossary. [Online] Available: <http://bridgefieldgroup.com/bridgefieldgroup/glos7.htm#P> (June 2, 2011).
- Burgess K., O. J. Singh, & R. Koroglu. (2006). Supply Chain Management: A Structured Literature Review and Implications for Future Research. *International Journal of Operations and Production Management*, 26(7), 703-729. <http://dx.doi.org/10.1108/01443570610672202>
- Caddy, I. H. (1999). Supply Chain and Supply Chain Management: Towards a Theoretical Foundation. *International Conference on Managing Enterprises*.
- Carter, C. R., & Ellram L. M. (2003). "Thirty-Five Years of the Journal of Supply Chain Management: Where have We Been and where is We Going?" *The Journal of Supply Chain Management*, 39(2), 27-39. <http://dx.doi.org/10.1111/j.1745-493X.2003.tb00152.x>
- Christopher M. (1998). *Logistics & Supply Chain Management: Strategies for Reducing Costs and Improving Services*. London: Pitman Publishing.
- Chow, D., & Heaver, T. (1999). *Logistics strategies for North America*. (3rd ed.). Global Logistics and Distribution Planning.
- Chow, D., Heaver, T., & Henriksson, L. (1994). Logistics performance: Definition and measurement. *International Journal of Physical Distribution & Logistics Management*, 24(1), 17-28. <http://dx.doi.org/10.1108/09600039410055981>
- Computerworld. (2001). Supply chain management. [Online] Available: <http://www.computerworld.com/softwaretopics/erp/story/0,10801,66625,00.html>. (August 10, 2011).
- Council of Supply Chain Management Professionals. (2009). Supply Chain management/logistics management definitions. [Online] Available: <http://www.cscmp.org/Website/AboutCSCMP/Definitions/Definitions.asp>. (July 22, 2011).
- Croom, S., Romano P., & Giannakis, M. (2000). Supply Chain Management: an Analytical Framework for Critical Literature Review. *European Journal of Purchasing and Supply Management*, 6(1), 67-83. [http://dx.doi.org/10.1016/S0969-7012\(99\)00030-1](http://dx.doi.org/10.1016/S0969-7012(99)00030-1)
- Fourie, Y. (2006). Structuring South African Maritime Supply Chain (SC) s for Higher Efficiency. PhD dissertation, University of Johannesburg (S.A).
- Forbes.com. (2006). Logistics glossary. [Online] Available: [http://www.forbes.com/fdc/logistics/glossary\\_d.shtml](http://www.forbes.com/fdc/logistics/glossary_d.shtml). (July 1, 2011).
- Ganeshan, R., & Harrison Terry P. (1995). *An Introduction to Supply Chain Management*. Department of Management Sciences and Information Systems.
- Giunipero, Larry C., Hooker, Robert E., Joseph-Matthews, Sacha; Yoon, Tom E., & Brudvig, Susan (2008), "A decade of SCM literature: past, present and future implications. *Journal of Supply Chain Management*, 144(4), 66-86.
- Gunasekarana, A., & Ngai E. W. T. (2005). Build-to-Order Supply Chain Management: Literature Review and Framework for Development. *Journal of Operations Management*, 23(5), 423-451. <http://dx.doi.org/10.1016/j.jom.2004.10.005>
- Grant, D., Lambert, D., Stock, J., & Ellram, L. (2006). *Fundamentals of Logistics Management, european Edn*. Berkshire: McGraw-Hill Book Co.
- KEYITSOLUTIONS. (2003). Scm (supply chain management) definition. [Online] Available: <http://www.keyitsolutions.com/supply-chain-management.htm> (June 28, 2011).
- Kotler, P. (1984). *Marketing Management Analysis, Planning and Control, Englewood Cliffs*. NJ: Prentice-Hall.
- Kussing, U. (2009). Chapter Controlling logistics performance. In W. J. Pienaar & J. J. *Business Logistics Management*. S. A.: Oxford University Press. Vogt, pp. 438-459.
- Lambert, D., & Pohlen, T. (2001). Supply chain metrics. *International Journal of Logistics Management*, 12(1), 1-19. <http://dx.doi.org/10.1108/09574090110806190>

- Lamming, R. (1996). Squaring Lean Supply with Supply Chain Management. *International Journal of Operations & Production Management*, 16(2). <http://dx.doi.org/10.1108/01443579610109910>
- Lee Hau L., & Corey Billington. (1995). The Evolution of Supply-Chain-Management Models and Practice at Hewlett-Packard. *Interfaces*, 25(5), 42-63. <http://dx.doi.org/10.1287/inte.25.5.42>
- Little, A. (1999). A European Supply Chain (SC) survey. [Online] Available: [http://www.adlittle.be/insights/studies/pdf/european\\_supply\\_chain\\_survey.pdf](http://www.adlittle.be/insights/studies/pdf/european_supply_chain_survey.pdf). (July 15, 2011).
- Langley, C., Coyle, J., Gibson, B., Novack, R., & Bardi, E. (2008). *Managing Supply Chains: A Logistics Approach*. Canada: South-Western Cengage Learning.
- Ludwig von Bertalanffy. (1969). *General system theory; foundations, development, applications*. New York: G. Brazille.
- Miller, J. G. (1978). *Living Systems*. New York: McGraw-Hill.
- Mentzer, J., Witt, W. D., Keebler, J., Min, S., Nix, N., Smith, D., & Zacharia, Z. (2001). Defining Supply Chain (SC) management. *Journal of Business Logistics*, 22(2). <http://dx.doi.org/10.1002/j.2158-1592.2001.tb00001.x>
- Nagarajan M., & Sobie G. (2004). Stable Far sighted Coalitions in Competitive Markets. *MANAGEMENT SCIENCE*, 53(1), 29-45. <http://dx.doi.org/10.1287/mnsc.1060.0605>
- Neely, A., Gregory, M., & Platts, M. (1995). Performance measurement system design: A literature review and research agenda. *International Journal of Operations and Production Management*, 15(4). [Online] Available: <http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published/EmeraldFullTextArticle/Articles/0240150405.html>. (August 8, 2011).
- Panayides, P. (2006). Maritime logistics and global supply chains: Towards a research agenda. *Maritime Economics & Logistics*, 8(1), 3-18. <http://dx.doi.org/10.1057/palgrave.mel.9100147>
- Pienaar, W. (2009). *Introduction to Business Logistics*. Southern Africa: Oxford University.
- Potter, A., Mason, R., & Lalwani, C. (2002). Performance measurement in the supply chain for sustainable distribution. [Online] Available: <http://www.cf.ac.uk/carbs/lom/lerc/centre/staff>. (August 4, 2011)
- Qukula, T. (2000). *Analysis of the Efficiency of the Transport Logistics Supply Chain with Specific Reference to Liner Shipping in South Africa*. Stellenbosch: University of Stellenbosch.
- Rolstad as, A. (1995). *Performance management: A business process benchmarking approach*. London: Chapman and Hall.
- Rungtusanatham M. J., Choi T. Y., D. G., Hollingworth, Z. Wu, & C. Forza. (2003). Survey Research in Operations Management: Historical Analyses. *Journal of Operations Management*, 21(4), 475-488. [http://dx.doi.org/10.1016/S0272-6963\(03\)00020-2](http://dx.doi.org/10.1016/S0272-6963(03)00020-2)
- Schenk, R. (2007). What is economic efficiency? [Online] Available: <http://ingrimayne.com/econ/Efficiency/WhatIsEff.html>. (February 12, 2011).
- Simchi-Levi, D., Kaminsky, P., & Simchi-Levi, E. (2003). *Designing and Managing the supply chain Concepts, Strategies and Case studies*. New York: McGraw-Hill Publishing.
- Simchi-Levi, D., Kaminsky, P., & Simchi-Levi, E. (2008). *Designing and Managing the Supply Chain: Concepts, Strategies and Case Studies*. International Edition: McGraw-Hill.
- Spekman, R., Salmond, D., & Kamauff, J. (1994). At last procurement becomes strategic. *Long-Range Planning*, 27(2), 76-84. [http://dx.doi.org/10.1016/0024-6301\(94\)90211-9](http://dx.doi.org/10.1016/0024-6301(94)90211-9).
- Stonebraker, P., & Liao, J. (2006). Supply chain integration: exploring product and environmental contingencies. [Online] Available: <http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published/EmeraldFullTextArticle/Articles/1770110106.html>. (April 1, 2011).
- Talley, W. (1994). Performance indicators and port performance evaluation. *Logistics and Transport Review*, 30(4), 339-351.
- Tecc.com.au. (2002). [Online] Available: <http://www.tecc.com.au/tecc/guide/glossary.asp?letter=S>. (July 12, 2011).
- Trkman, P., Stemberger, M., & Jaklic, J. (2005). Information transfer in Supply Chain (SC) management. [Online] Available: <http://2005papers.iisit.org/I46f91Trkm.pdf>. (July 21, 2011).

US Agency for International Development. (2009). Glossary. [Online] Available: [http://www.hciproject.org/methods\\_and\\_tools/hciglossary.html](http://www.hciproject.org/methods_and_tools/hciglossary.html). (April 4, 2011).

Vaart T. V., & Pieter D. (2003). Buyer-focused operations as a supply chain strategy. *International Journal of Production and operation Management*, 26(1), 8-23.

Yourdon E. (1989). *Modern Structured Analysis*. New jersey: Yourdon Press, Prentice-Hall International.

Wong, W., & Wong, K. (2007). Supply chain performance measurement system using dea modeling, *Industrial Management & Data Systems* 107(3). [Online] Available: <http://emeraldinsight.com/Insight/ViewContentServlet;jsessionid=E57B39C6CE4796DA8D44590D80E6077B?File name=Published/EmeraldFullTextArticle/Articles/0291070304.html>. (August 10, 2011).

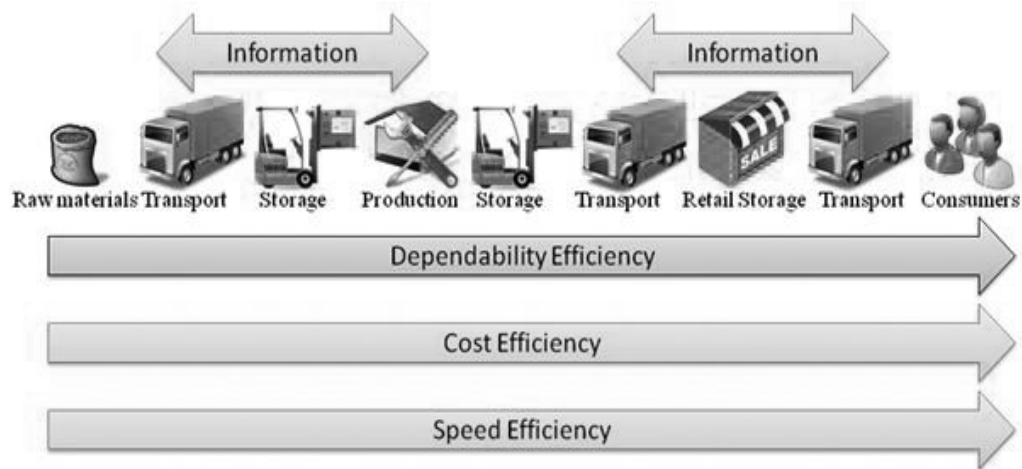


Figure 1. A design of a fundamental Supply Chain



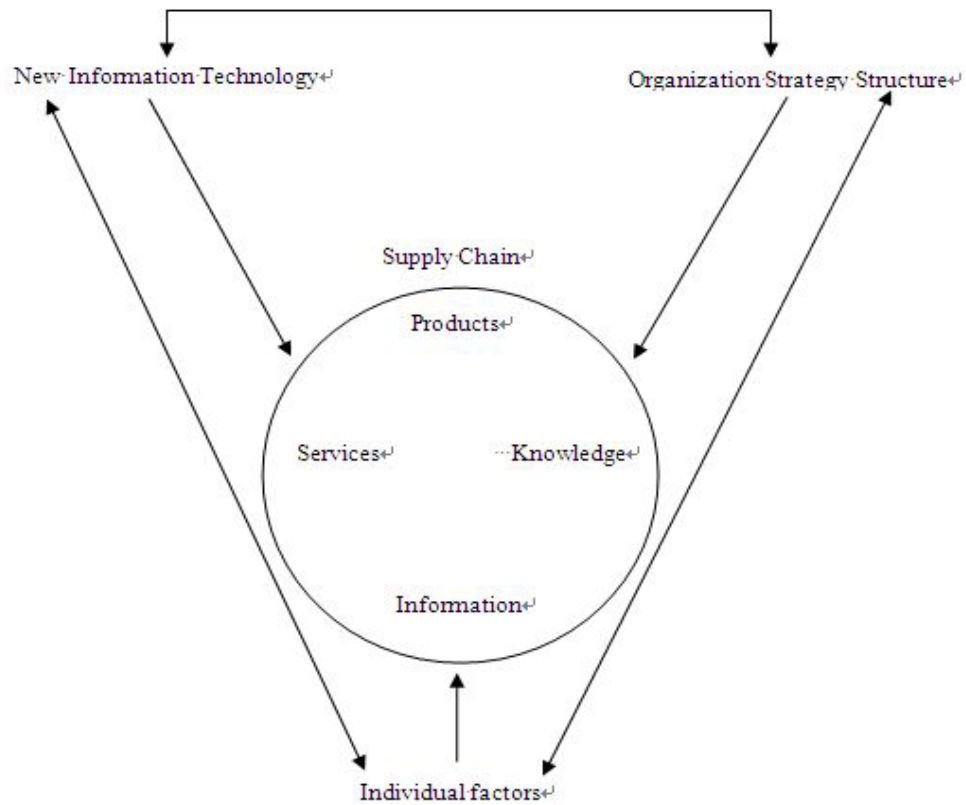


Figure 2. Source: Caddy and H. (1999)

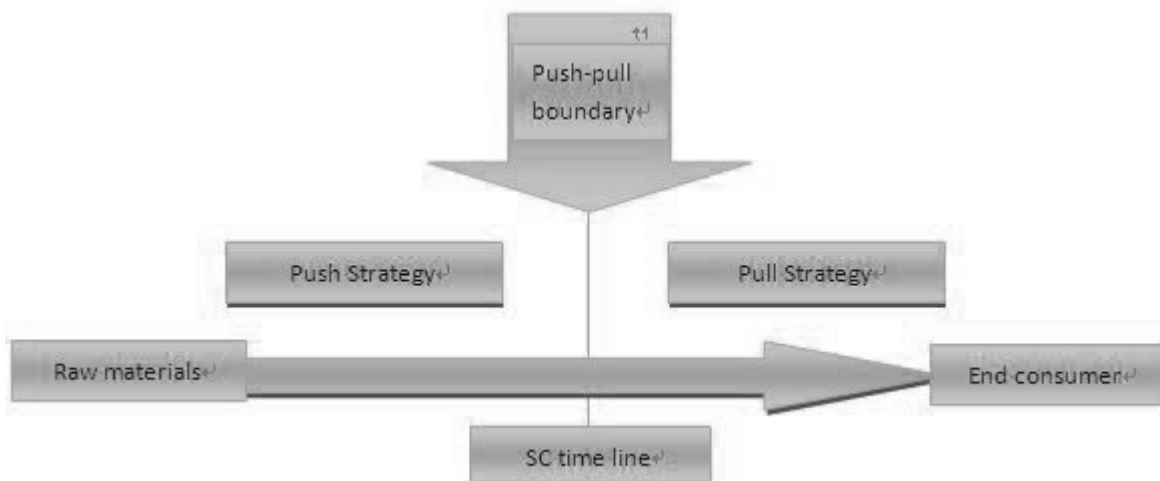


Figure 3. Push-pull based- Supply Chains  
 Source: Simchi-Levi, D., Kaminsky, P. and Simchi-Levi, E. (2008)

# An Empirical Examination of the Relationship between Ownership Structure and the Performance of Firms in Nigeria

UWUIGBE, UWALOMWA

Department of Accounting, College of Development Studies  
Covenant University, Ogun State, Nigeria  
Tel: 234-805-236-3513 E-mail: alaiwu2003@yahoo.com

OLUSANMI, OLAMIDE

Department of Accounting, College of Development Studies  
Covenant University, Ogun State, Nigeria  
Tel: 234-803-284-7622 E-mail: horlamz@yahoo.co.uk

Received: August 16, 2011

Accepted: November 2, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p208

URL: <http://dx.doi.org/10.5539/ibr.v5n1p208>

## Abstract

This study examines the relationship between ownership structure and the financial performance of listed firms in the financial sector of the Nigerian economy. To achieve the objective of this study, a total of 31 selected listed firms in the Nigerian stock exchange market were used. Also, the corporate annual reports for the period 2006-2010 were analyzed. This paper basically modeled the corporate ownership structure and firm performance relationship of the selected listed firms using the multivariate multiple regression analysis method to test the research propositions in this study. The study as part of its findings observed that institutional ownership has a significant positive impact on the performance of the selected listed firms in Nigeria. In addition, the study also revealed that there is a significant positive relationship between foreign ownership and the firm performance in Nigeria.

**Keywords:** Board ownership, Financial performance, Foreign Ownership, Institutional ownership, Financial sector

## 1. Introduction

Nigeria as a country has experienced turbulent times with regard to its corporate governance practices in the last two decades especially in the financial sector of the economy; this has invariably have resulted in a generally low corporate profits across the industry. Accidentally, this picture is fairly well replicated globally in the same period. From a global perspective, corporate governance as a concept is an issue of growing importance, both theoretically and practically. The past one decade according to Baek, Kang and Park (2004) has witnessed significant transformations in corporate governance structures, leading to increased scholarly interest in the role of board of directors in driving corporate performance. Arising from many high profile corporate failures, coupled with generally low corporate profits across the globe, the credibility of the existing corporate governance structures has been put to question. Subsequent research such as (Demsetz and Lehn, 1985, Shleifer & Vishny, 1997; Shleifer, 2001) has thus called for an intensified focus on the existing corporate governance structures, and how they ensure accountability and responsibility. The failure of Enron Corporation, together with other high profile corporate collapses such as Adelphia, Health South, Tyco, Global Crossing, Parmalat, Hollinger, Adecco, TV Azteca, Royal Dutch Shell, WorldCom, among others has resulted in calls for better corporate governance (Lavelle, 2002; Clarke, Dean & Oliver 1998). This phenomenon has invariably led to debates concerning the efficiency of corporate governance. Monks (1998) argued that the numerous cases of corporate failures are indictments on the effectiveness of the existing corporate governance structures.

Nevertheless, while there is an extensive research on relationship between ownership structure and the performance firms in developed economies, most notably the United States, Russia and France (e.g., Bianco & Casavola, 1999; Conyon & Peck, 1998a; Hossain, Prevost and Rao, 2001). On the other hand, there is a dearth of literature in this area of research from developing economies particularly in Nigeria, where there are huge institutional differences, including the mechanisms of corporate governance, between Nigeria and other developed economies. More so, it is

not known whether existing differences in institutional, regulatory and corporate governance practices also translate into differences in the relationship between ownership and firm performance. This study to this end seeks to find out whether there is a relationship between ownership structure and the performance of listed firms in Nigeria. The remaining part of this paper is structured as follows. Following the introductory section is the review of relevant literature and hypothesis development. The next section then presents our econometric model and preliminary empirical evidence. Finally, the last section summarizes the main findings of the study with discussion of the conclusion.

### *1.1 Scope of Study*

This study basically investigates the relationship between ownership structure and the financial performance of listed firms in the financial sector of the Nigerian economy. To achieve this objective, the corporate annual reports for the period 2006-2010 were analyzed. In addition, the study considered a total of 31 listed firms in the aforementioned industry. The choice of this industry arises based on the direct and indirect contribution to the nation economy.

#### *1.1.1 Ownership Structure and Firm Performance*

One of the most important trademarks of the modern corporation is the separation of ownership and control. Modern corporations are typically managed by professional executives who own only a small fraction of the shares. The link between ownership structure and performance has been the subject of an important and ongoing debate in the corporate finance literature. The debate goes back to the Berle and Means (1932) thesis, which suggests that an inverse correlation should be observed between the diffuseness of shareholdings and firm performance. Their view has been challenged by Demsetz (1983), who argues that the ownership structure of a corporation should be thought of as an endogenous outcome of decisions that reflect the influence of shareholders and of trading on the market for shares. When owners of a privately held company decide to sell shares, and when shareholders of a publicly held corporation agree to a new secondary distribution, they are, in effect, deciding to alter the ownership structure of their firms and, with high probability, to make that structure more diffuse. Subsequent trading of shares will reflect the desire of potential and existing owners to change their ownership stakes in the firm. In the case of a corporate takeover, those who would be owners have a direct and dominating influence on the firm's ownership structure. In these ways, a firm's ownership structure reflects decisions made by those who own or who would own shares. The ownership structure that emerges, whether concentrated or diffuse, ought to be influenced by the profit-maximizing interests of shareholders, so that, as a result, there should be no systematic relation between variations in ownership structure and variations in firm performance.

#### *1.1.2 Literature Review and Development of Hypothesis*

Most research on the relationship between ownership and financial performance is rooted in an agency framework. Morch, Shleifer, and Vishny (1988), and McConnell and Servaes (1990), among others, empirically examined the effect of ownership structure on corporate performance. Morch, Shleifer, and Vishny (1988) estimates a piece-wise linear regression in which the dependent variable is Tobin's q ratio was a proxy for corporate performance, and the primary independent variable is the fraction of shares owned by corporate insiders. While these studies do not agree on details, they both report that the relationship between corporate performance and the degree of insider ownership is not linear: in some range of insider ownership, corporate performance is positively related to insider ownership, but in other range, a negative relationship is found. Thus, the results of these studies suggest that insider ownership does not always have a positive effect on corporate performance. Using a different methodology, McConnell and Servaes (1990) also demonstrate that corporate performance is nonlinearly related to the degree of insider ownership. Interestingly, McConnell and Servaes show that corporate performance is positively related to the degree of institutional ownership, indicating a positive effect of institutional ownership on corporate performance. They suggested that managers' entrenchment would be more difficult with the existence of institutional shareholders. In a related survey, Holderness (2003) examined the effects of management and block holder equity ownership on corporate decisions and on firm value. They observed that management and block holder equity ownership had a negative impact on corporate decisions and firm value. Also, Gordon and Schmid (2000) in their study concluded that firm performance in Germany is positively related to concentrated equity ownership. Nevertheless, Himmelberg, Hubbard and Palia (1999) using a panel data in a similar survey concluded that a large fraction of the cross-sectional variation in managerial ownership were endogenous. They suggest that managerial ownership and firm performance are determined by a common set of characteristics and, therefore, question the causal link from ownership to performance implied by previous studies.

Nevertheless, despite the extensive research in this area of finance, most research on ownership structure and firm performance has been carried out in developed economies, most notably the United States. Only a few of these

studies have considered emerging market economies, with none focusing on Nigeria. There exist huge institutional differences, including the mechanisms of corporate governance, between Nigeria and the developed economies. Moreover, it is not known whether existing differences in institutional, regulatory and corporate governance practices also translate into differences in the relationship between ownership and firm performance. This study to this end basically seeks to investigate precisely whether there is a relationship between ownership structure and the performance of firms.

### 1.2 Hypothesis Development

With the mixed result provided in prior researches; coupled with the dearth of literature in this area of finance in a developing country like Nigeria, the research hypothesis for this study is stated below in the null form.

H<sub>1</sub>: there is no significant relationship between board ownership and the performance of firms in Nigeria.

H<sub>2</sub>: there is no significant relationship between foreign ownership and the performance of firms in Nigeria

H<sub>3</sub>: here is no significant relationship between Institutional ownership and the performance of listed firms in Nigeria.

#### 1.2.1 Research Methodology

To achieve the objectives of this research, the study has adopted the use of corporate annual reports of listed firms in the financial sector of the Nigerian economy as our main source of data. This is due to the fact that corporate annual reports of listed companies are readily available and easily accessible. More so, the annual reports for the period 2006-2010 were used due to the fact that the period marked the introduction of bank capitalization process and the failure of some of the banks due to poor corporate governance practice. The population for this study is comprised of all listed firms in the financial sector of the Nigerian economy as at 31 December 2010. However, the selected sample size for this study includes listed firms in the financial sector of the economy which sums up to a total of 31 firms. This represents 13.5% percent of the total population and, thus, is consistent with the minimum sample size as suggested by either the conventional sample size table proposed by Krejcie & Morgan (1970) or the modern online sample size calculator by Raosoft, Inc. In addition, while the study has adopted return on assets (dependent variable) as a measure of firm performance since ROA is an accounting ratio often used to as a measure for the effective performance of management; on the other hand, board, foreign and institutional ownership (which are the independent variable) would be proxied by BODOWN, FOROWN and INSOWN respectively. Similarly, in order to assess the impact of corporate ownership structure on firm performance; we use the following regression model:

Model Specification

$$ROA_t = f(BODOWN_t, FOROWN_t, INSOWN_t, U_t) \quad (1)$$

This can be written in explicit form as:

$$ROA_t = \beta_0 + \beta_1 BODOWN_t + \beta_2 FOROWN_t + \beta_3 INSOWN_t + U_t \quad (2)$$

Where:

ROA = Return on Assets as a proxy for firm performance

BODOWN = Board Ownership

FOROWN = Foreign Ownership

INSOWN = Institutional Ownership

T = Time dimension of the Variables

$\beta_0$  = Constant or Intercept.

$\beta_{1-3}$  = Coefficients to be estimated or the Coefficients of slope parameters.

### 1.3 Discussion of Findings

A marathon review of the findings from our descriptive statistics as presented in Table 2 shows that on the average, firm's performance in the industry had an approximate mean value of about 7.3955. On the other hand, board ownership, foreign ownership and institutional ownership which constituted the variables used to capture firm ownership structure had approximate mean values of 6.9284, 6.2232 and 13.7668 respectively.

Insert Table 2 Here

Furthermore, results from the Pearson Correlation analysis on the relationship between board ownership (proxied as the proportion of board ownership to total shareholding) and the performance of firms in Nigeria as depicted in Table 3 shows that there is a positive correlation between board ownership (i.e. management ownership) and the

performance of firms in Nigeria. This is evident with a correlation coefficient of ( $r = .495$ ) and it is significant at 1% probability level. This result suggests that managerial ownership enhances corporate performance since managers are motivated to double up efforts as part of the shareholders towards the realization of the wealth creation objective. Similarly, results from Table 3 further depicts that there is a significant positive correlation between foreign ownership and firms' performance in Nigeria. This is marked with a correlation coefficient of ( $r = .397$ ) and it is significant at 5% level. This outcome invariably suggests that an increase in the proportion of foreign ownership would positively affect the level of firm's performance in the financial industry. This positive impact can be explained possibly by the managerial efficiency and technical skills as well as the state of technology that foreign owners bring to their work environment. More so, results from the Pearson Correlation analysis further indicate that there is a significant positive correlation between Institutional ownership and the performance of listed firms in Nigeria. This is reflected with the correlation coefficient of ( $r = .429$ ) and it is also significant at 5% level.

Insert Table 3 Here

Meanwhile, empirical results on the goodness of fit test as shown in table 4 present an adjusted  $R^2$  value of about .581. This in a nutshell means that the value of the dependent variable can be explained by about 58% of the independent variables. This value can be considered sufficient because the financial performance of a firm can also be influenced by other factors besides board ownership, foreign ownership and Institutional ownership. Nevertheless, findings from the Analysis of Variance (i.e. the Fishers - test) as reflected in Table 5 presents a p-value that is less than 0.01 (i.e.  $p\text{-value} < 0.01$ ). This outcome suggests clearly that simultaneously the explanatory variables (i.e. board ownership, foreign ownership and Institutional ownership) are significantly associated with the dependent variable (i.e. firms performance). In other words, the F-statistics proves the validity of the estimated models which are statistically significant at 1% as shown by the F-probabilities. Consequently, the regression analysis results as presented in Table 6 indicates that consistent with our apriori expectation (i.e.  $b_1 < 0$ ); there is a significant positive relationship between board ownership (i.e. management ownership) and the performance of listed firms in the finance industry. This is evident in the coefficient of beta (.414) and a t-value of 3.274. This result is also statistically significant at 1% level (i.e.  $p\text{-value} < 0.01$ ). This basically means that a meaningful director/management stock ownership will invariably bring about a better management monitoring which will in the long-run enhance firms' performance. This outcome further implies that firms with higher managerial stake tend to perform better than firms with a low level of managerial stake. This result is consistent with the findings of Jensen and Meckling (1976), Bohren and Odegaard (2001) and Mueller and Spitz (2002) where they found a positive relationship between board ownership (i.e. management ownership) and firm's performance. However, this result contradicts the findings provided by Demsetz and Villalonga (2001) and Loderer and Martin (1997).

Insert Table 4 Table 5 & Table 6 Here

Also, consistent with our apriori expectations (i.e.  $b_2 < 0$ ); the study further observed that there is a significant positive relationship between foreign ownership and the firm performance in Nigeria. This is evident as presented in Table 6 with a t-value of 3.803 and it is statistically significant with a p-value of that is less than 0.01% (i.e.  $p\text{-value} < 0.01$ ). This outcome for hypothesis (2) basically suggest that foreign ownership has positive effect on firm performance possibly due to the managerial efficiency and technical skills as well as the state of technology that foreign owners bring to their work environment. In addition, this positive impact might be adduced to the foreign owned firms are more likely to benefit from prudent management of risks as influenced by the policies of the parent company, and strict focus on profitability to maximize shareholders' wealth creation capacity. This result nevertheless corroborates the findings provided by Claessens and Demirguc-kunt (2000), Imam and Malik (2007) and Barako & Tower (2007) were they observed that foreign holding is positively and significantly related to firm performance.

Finally, findings on the relationship between institutional ownership and firm performance further indicate that consistent with our apriori expectation (i.e.  $b_2 < 0$ ), there is also a significant positive relationship between institutional ownership and the performance of the selected listed firms in Nigeria. This is also evident in the coefficient of beta (.436) and a t-value of 3.391. Interestingly, this result is statistically significant with a p-value .002. This invariably suggests that the monitoring role of institutional investors has value in enhancing performance of firms upon acquiring a substantial proportion of firm equity. This outcome corroborates the findings of Wu (2000) and Barako & Tower (2007). However, this outcome contradicts to the findings of Claessens et al. (2000) were they observed that there was no relationship between institutional ownership and firm performance.

### 1.3.1 Conclusion and Recommendations

This paper basically examined the relationship between ownership structure and the performance of 31 listed firms in the financial sector of the Nigerian economy over a period of 5 years (i.e. 2006 – 2010). Findings from the study

revealed that there is a significant positive relationship between board ownership (i.e. management ownership) and the performance of listed firms in the financial industry. That is, the nature of the managerial ownership of a firm has significant impact on the performance of such firm. This basically suggests that firms with higher managerial stake tend to perform better than firms with a low level of managerial stake. Secondly, the study also revealed that foreign ownership has a significant positive impact on the firm performance. Interestingly, the paper suggests that this positive impact could be possibly due to the managerial efficiency and technical skills as well as the state of technology that foreign owners bring to their work environment. Finally, findings from the paper further revealed that there institutional ownership has a significant positive impact on the performance of the selected firms since the monitoring role of institutional investors has value in enhancing performance of firms upon acquiring a substantial proportion of firm equity.

## References

- Barako, D. G., & Tower, G. (2007). Corporate Governance and Bank Performance: Does ownership matter? Evidence from Kenyan banking sector. *Journal of Management and Governance*, 12(4), 309-324. <http://dx.doi.org/10.1007/s10997-008-9053-x>
- Baek, J. S., Kang, J. K., & Park, K. S. (2004). Corporate Governance and Firm Value: Evidence from the Korean Financial Crisis. *Journal of Financial Economics*, 71, 265-313. [http://dx.doi.org/10.1016/S0304-405X\(03\)00167-3](http://dx.doi.org/10.1016/S0304-405X(03)00167-3)
- Berle, A., & G. Means. (1932). *Modern Corporation and Private Property*. New York: World INC.
- Bianco, M., & Casavola P. (1999). Italian Corporate Governance: Effects on Financial Structure and Firm Performance. *European Economics Review*, 43, 1057-69. [http://dx.doi.org/10.1016/S0014-2921\(98\)00114-7](http://dx.doi.org/10.1016/S0014-2921(98)00114-7).
- Bohren, O., & B. A. Odegaard. (2001). Corporate Governance and Economic Performance in Norwegian Listed Firms. *Research Report 11, Norwegian School of Management*.
- Claessens, S., S. Djankov, J. P. H. Fan, & L. H. P. Lang. (2000). The Separation of Ownership and Control in East Asian Corporations. *Journal of Financial Economics*, 58, 81-112. [http://dx.doi.org/10.1016/S0304-405X\(00\)00067-2](http://dx.doi.org/10.1016/S0304-405X(00)00067-2)
- Clarke, F. L., Dean, G. W., & Oliver, K. G. (1998). *Corporate collapse regulation, accounting and ethical failure*. Cambridge: Cambridge University Press.
- Conyon, M. J., & Peck, S. I. (1998). Board control, remuneration committees, and top management compensation. *Academy of Management Journal*, 41(2), 146-157. <http://dx.doi.org/10.2307/257099>
- Demsetz, H., & Lehn, K. (1985). The Structure of Corporate Ownership: Causes and Consequences. *The Journal of Political Economy*, 93, 1155-1177. <http://dx.doi.org/10.1086/261354>
- Demsetz H., & Villalonga B. (2001). Ownership Structure and Corporate Performance. *Journal of Corporate Finance*, 7(3), 209-233. [http://dx.doi.org/10.1016/S0929-1199\(01\)00020-7](http://dx.doi.org/10.1016/S0929-1199(01)00020-7)
- Demsetz, H. (1983). The Structure of Ownership and the Theory of the Firm. *Journal of Law and Economics*, 26, 375-390. <http://dx.doi.org/10.1086/467041>
- Himmelberg, Charles P., Hubbard, R. Glenn, & Palia, Darius. (1999). Understanding the determinants of managerial ownership and the link between ownership and performance. *Journal of Financial Economics, Elsevier*, 53(3), 353-384. [http://dx.doi.org/10.1016/S0304-405X\(99\)00025-2](http://dx.doi.org/10.1016/S0304-405X(99)00025-2)
- Holderness, C. G. (2003). A Survey of Blockholders and Corporate Control. *Economic Policy Review*, 9(1), 51-64.
- Hossain, M., Prevost, A. K., & Rao, R. P. (2001). Corporate governance in New Zealand: The effect of the 1993 Companies Act on the relation between board composition and firm performance. *Pacific-Basin Finance Journal*, 9(2), 119-145. [http://dx.doi.org/10.1016/S0927-538X\(01\)00003-8](http://dx.doi.org/10.1016/S0927-538X(01)00003-8)
- Imam, M. O., & Malik, M. (2007). Firm Performance and Corporate Governance through Ownership Structure: Evidence from Bangladesh Stock Market. *International Review of Business Research Papers*, 3(4), 88-110
- Jensen, M., & Meckling, W. (1976). Theory of the firm: managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3, 305-360. [http://dx.doi.org/10.1016/0304-405X\(76\)90026-X](http://dx.doi.org/10.1016/0304-405X(76)90026-X)
- Jensen, M. (2001). Value maximization, shareholders theory and corporate objective function. *Journal of Applied Corporate Finance*, 14(3), 8-22. <http://dx.doi.org/10.1111/j.1745-6622.2001.tb00434.x>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30, 607-610.

- Lavelle, L. (2002). Enron: How Governance Rules Failed. *Business Week*, 21(3766), 28-29.
- Loderer C., & Martin K. (1997). Executive Stock Ownership and Performance Tracking Faint Traces. *Journal of Financial Economics*, 45(2), 595-612. [http://dx.doi.org/10.1016/S0304-405X\(97\)00017-2](http://dx.doi.org/10.1016/S0304-405X(97)00017-2)
- McConnell, John J. & Henri Servaes. (1990). Additional Evidence on Equity Ownership and Corporate Value. *Journal of Financial Economics*, 27, 595-612. [http://dx.doi.org/10.1016/0304-405X\(90\)90069-C](http://dx.doi.org/10.1016/0304-405X(90)90069-C)
- Morck, R, Shleifer, A., & Vishny, R. (1988). Management Ownership and Market Valuation: An Empirical Analysis. *Journal of Financial Economic*, 20, 293-315. [http://dx.doi.org/10.1016/0304-405X\(88\)90048-7](http://dx.doi.org/10.1016/0304-405X(88)90048-7)
- Mork, R, Shleifer A., & Vishny, R. (1988). Management Ownership and Market Valuation. An Empirical Analysis. *Journal of Finance and Economics*, 20, 292-315.
- Mueller, E. and A. Spitz (2006): Managerial Ownership and Company Performance in German Small and Medium-Sized Private Enterprises. *German Economic Review*, 2, 2-18.
- Palia. (1999). Understanding the determinants of managerial ownership and the link between ownership and performance. *Journal of Financial Economics*, 45, 223-255.
- Shleifer, A. & Vishny, R. (1997). A survey of corporate governance. *Journal of Finance*, 52, 737-783. <http://dx.doi.org/10.2307/2329497>
- Wu, Y. (2000). Honey, CalPERS shrunk the board. Working paper, University of Chicago

Table 1. Proxies and Predicted Signs for Explanatory Variables

Variable	Predicted Sign	Type	Scale
BODOWN	(+)	Independent Variable	Proportion of board ownership to total shareholding
FOROWN	(+)	Independent Variable	Ratio of foreign ownership stake to total shareholding
INSOWN	(+)	Independent Variable	This was taken as the ratio of shareholding held by institutions to the total number of shares outstanding in the bank

Table 2. Descriptive Statistics of Variables

	ROA	BODOWN	FOROWN	INSOWN
Mean	7.3955	6.9284	6.2232	13.7668
Median	4.6600	2.6400	.0000	.0000
Maximum	23.87	34.60	95.00	78.30
Minimum	1.10	.00	.00	.00
Std. Dev.	6.79519	9.59805	22.27548	22.40524
Observations	31	31	31	31

Note: ROA represents Return on Asset, BODOWN represents Board Ownership, FOROWN represents Foreign Ownership, INSOWN represents Institutional Ownership

Table 3. Pearson Correlations

		ROA	BODOWN	FOROWN	INSOWN
ROA	Pearson Correlation	1	.495(**)	.397(*)	.429(*)
	Sig. (2-tailed)		.005	.027	.016
	N	31	31	31	31
BODOWN	Pearson Correlation	.495(**)	1	.018	-.236
	Sig. (2-tailed)	.005		.924	.201
	N	31	31	31	31
FOROWN	Pearson Correlation	.397(*)	-.002	1	-.177
	Sig. (2-tailed)	.027	.990		.340
	N	31	31	31	31
INSOWN	Pearson Correlation	.429(*)	-.190	-.177	1
	Sig. (2-tailed)	.016	.306	.340	
	N	31	31	31	31

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

\* Correlation is significant at the 0.05 level (2-tailed).

Table 4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F change	df1	df2	Sig F Change
1	.762 <sup>a</sup>	.581	.534	4.63840	.581	12.462	3	27	.000

a: Predictors: (Constant), INSOWN, FOROWN, BODOWN

Table 5. ANOVA<sup>b</sup>

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	804.338	3	268.113	12.462	.000 <sup>a</sup>
	Residual	580.900	227	21.515		
	Total	1385.237	30			

a: Predictors: (Constant), INSOWN, FOROWN, BODOWN

b: Dependent Variable: ROA

Table 6. Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
(Constant)	2.647	1.157			2.288	.030
BODOWN	.293	.090	.414		3.257	.003
FOROWN	.145	.039	.475		3.753	.001
INSOWN	.132	.039	.435		3.372	.002

a : Dependent Variable: ROA



Table 7. List of Selected Listed Firms in the Financial Industry

S/N	SELECTED FIRMS	S/N	SELECTED FIRMS
1	ACCESS BANK	16	UNITY BANK
2	DIAMOND BANK	17	WEMA BANK PLC
3	ECO BANK	18	ZENITH BANK PLC
4	FIDELITY BANK	19	SPRING BANK PLC
5	FIRST BANK NIG PLC	20	AFRI BANK
6	FIRST CITY MONUMENT BANK	21	ACCESS BANK
7	FIN BANK PLC	22	UNITED BANK FOR AFRICA PLC
8	GUARANTY TRUST BANK	23	INTERNATIONAL ENERGY INSURANCE COMPANY PLC
9	INTERCONTINENTAL BANK PLC	24	INVESTMENT AND ALLIED ASSURANCE PLC
10	OCEANIC BANK INTL PLC	25	CUSTODIAN & ALLIED INSURANCE PLC
11	PLATINUM HABIB BANK PLC	26	CUSTODIAN & ALLIED INSURANCE PLC
12	SKYE BANK PLC	27	EQUITY ASSURANCE PLC
13	STERLING BANK PLC	28	GOLDLINK INSURANCE PLC
14	STANBIC IBTC BANK PLC	29	GREAT NIGERIA INSURANCE PLC
15	UNION BANK PLC	30	GUARANTY ASSURANCE PLC
		31	GUINEA INSURANCE PLC

Source: Corporate Annual Report (2010)

# Corporate Governance and Earnings Management: Jordanian Evidence

Suzan Abed

Faculty of Economic and Administrative Science, Accounting Department

Applied Science University, Jordan-Amman 11931

Tel: 96-26-560-9999 Ext. 1383 E-mail: s\_abed@asu.edu.jo

Ali Al-Attar

Faculty of Economic and Administrative Science, Accounting Department

American University of Madaba, Jordan-Amman 11821

Tel: 96-26-5554-8230 Ext. 1376 E-mail: alimms29@yahoo.com

Mishiel Suwaidan

Faculty of Economic and Administrative Science, Accounting Department

Yarmouk University, Jordan-Irbid 21163

Tel: 96-22-721-1111 Ext. 2489 E-mail: msuwaidan@yu.edu.jo

Received: August 2, 2011

Accepted: September 9, 2011

Published: January 1, 2012

doi:10.5539/ibr.v5n1p216

URL: <http://dx.doi.org/10.5539/ibr.v5n1p216>

## Abstract

This study examines the relationship between earnings management and characteristics of corporate governance mechanism for a sample of Jordanian non-financial firms during the period 2006-2009. Earnings management is measured by discretionary accruals using Jones models. The characteristics examined are the existence of independence members within the board of directors, the size of the board of directors, the role duality (CEO/chairman), the percentage of insider ownership. In addition, two controlled variables have been employed in this study: size of the company and financial leverage.

The results of this study reveal that the size of board of directors is the only variable that has a significant relation with earnings management. The findings of this study have important policy implications since they support encouraging applying corporate governance principles in order to control the behaviors of the board of directors which may lead to distortion in reported financial annual reports. As a result, the reliability and transparency of reported financial statements may be enhanced.

**Keywords:** Earnings management, Corporate Governance, Firm Characteristics, Jordan

## 1. Introduction

The primary objective of financial statements is to provide users with information relating to the uncertainty and timing of future cash flows. Relevance of accounting numbers creates powerful incentives for managers to manipulate earnings to their advantages (Abdul Rahman & Ali, 2006). Healy and Wahlen (1999) stated two competing reasons for managers to manipulate their income. The first is the capital market pressure which states that the widespread use of accounting information by investors and financial analysts for stock valuation creates incentives for executives to manage earnings in order to influence short-term stock performance. The second reason is contracting motivation which stresses the use of accounting data to monitor and regulate contracts between firms and their stakeholders. Managers can manipulate earnings in order to maximize their income or to signal their private information, thus influencing the informativeness of earnings (Gul et al., 2003). Schipper (1989) and Healy and Wahlen (1999) declared that earnings management is the alternation of performance by insiders to either mislead some stakeholders or to influence contractual outcomes. In other words, managers can work opportunistically for their advantage and disadvantage for their companies.

Dechow et al. (1996) highlighted that accounting earnings are more reliable and more informative when managers' opportunistic behavior is controlled through a variety of monitoring systems. The bankrupt of large companies has raised serious questions about the effectiveness of different monitoring devices such as external examiner, voluntary disclosure and corporate governance mechanism (Ebrahim, 2007). There has been debate in the literature about the effectiveness of corporate governance factors. Corporate governance implies an explicit responsibility for boards in the financial reporting process. In doing so, it raises the expectation that boards will constrain opportunistic earnings management activities (Epps & Ismail, 2008). Fama and Jensen (1983) stated that board of directors has important role in protecting shareholder interests by monitoring firm's management team. Based on agency theory framework, outside directors have an incentive to avoid colluding with managers because the value of independent directors' human capital is partially determined by the effectiveness of their monitoring performance (Fama and Jensen, 1983). Otherwise, the value of their human capital as outside directors may diminish. Therefore, outside directors are widely believed to protect the interests of shareholders more effectively. In addition, audit committee serves as a monitor of the financial reporting system. The committee selects the external auditor and questions management, external and internal auditors to determine whether they are acting in the best interest of the company (Blue Ribbon Committee Report)

Although prior work has provided some insight into the role of corporate governance (Klein et al., 2002; Xie et al., 2003; Peasnell et al., 2005), but they have not examined corporate governance mechanism in an environment such as Jordan, where the agency problem is minimized; because most of the companies are family business and so this reduces the probability of earnings management activities. The examination of the level of earnings management in a society like Jordan, where the inclusion of the Jordanian code of corporate governance is just started in January 2009, may therefore contribute to the existing knowledge of earnings management. This study aims to acquire knowledge of whether the existence of corporate governance mechanisms are effective in extenuating earnings management activities among companies listed on the Amman Stock Exchange (ASE).

The remainder of this study is set out as follows: section 2 reviews previous studies and develops hypotheses based on exciting theories. Section 3 presents the research design and describes the data. Section 4, discusses the results. Section 5 provides a summary to the research findings and presents the main conclusions of the study. Moreover, contributions to the literature, limitations, and suggestions for future researches are also presented.

## **2. Literature Review and Hypotheses Development**

Prior accounting research has examined the relationship between different corporate governance factors and earnings management (Beasley, 1996; Dechow et al., 1996; Peasnell, et al. 2005). The vast majority of previous studies has concentrated on board and audit committee as proxy for corporate governance mechanism. For example, Klein (2002) found that firms with boards and/or audit committees composed of independent directors are less likely to have larger abnormal accruals. In the same manner, Shen and Chih (2007) found that effective corporate governance mechanism tend to conduct less earnings management. Additionally, Abdul Rahman and Ali (2006) and Epps and Ismail (2008) confirmed that board characteristics are important determinants of earnings management. Bedard et al. (2004) found significant negative relation between measures of earnings management and the all-independent audit committees. However, they found no significant relation between earnings management and audit committee proxied by annual meetings. Cheng and Warfield (2005) investigated whether the propensity for earnings management is lower when management interest's and owners' interests are aligned through higher managerial ownership. Their results confirmed that earnings management is lower for firms with higher managerial ownership.

In the context of Jordan, Al-Fayoumi et al. (2010) examined the relationship between earnings management and ownership structure for the period 2001-2005. The results documented that managers' ownership is ineffective in aligning managers to take value maximizing decisions. Additionally, they found insignificant role for blockholders in monitoring managerial behavior earnings management. Al-khabash and Al-Thuneibat (2009) provided empirical evidence concerning the existence of earnings management from the perspective of external and internal auditors in Jordan, and they believe that managers deal with increasing or decreasing their earnings in order to legitimize their activities.

The current paper concentrates on discussing and analyzing the effects of corporate governance mechanism on earnings management among firms operating in an emerging market. With globalalization of business and financial markets, there has been strong demand for quality of information from firms across countries. By doing so, investors can conduct comparative evaluation of risk and return of firms in different countries (Jaggi and Leung, 2007). At the same time, several numbers of companies are owned by families, such diversity in ownership provides rich

environment for examination. Hence, several hypotheses are developed that identify and link specific elements of governance to earnings management.

### *2.1 Percent of Independent Outside Directors on the Board*

There is a considerable literature regarding the effect of the composition of the board of directors (i.e., inside versus outside directors). Agency theory supports the idea that board independence should be denominated by outside director. Dunn (1987) highlighted that board dominated by outsiders is in a better position to monitor and control managers. Fama and Jensen (1983) argued that the role of the board of directors is to protect shareholder interests by monitoring managers. An important factor that may affect the board's ability to monitor the firm's managers is its composition and the percentage of independent directors on the board.

A number of studies have linked the proportion of outside directors to financial performance and shareholder wealth (e.i., Brickley et al., 1994). Moreover, the dominance of non-executive directors is more effective in monitoring management. Klein (2002), Xie et al. (2003), Sonda et al. (2003) and Peasnell et al. (2005) provided evidence concerning board independence and earnings manipulation and found that companies with independent boards are less likely to report abnormal accruals. Conversely, Park and Shin (2003), Abdul Rahman and Ali (2006) and Osama and Noguer (2007) found no relationship between outsider directors and earnings management.

On the other hand, other studies proposing that completely independent boards may not be effective in monitoring management. For example, Agrawal and Knoeber (1996) found a negative relationship between independent board and firm performance, leading them to conclude that boards that have too many outsiders lose the expertise associated with officers serving on the board. Hence, based on agency theory, it can be hypothesized that:

H1: There is a significant negative relationship between earnings management and proportion of independent directors on the board

### *2.2 Board Size*

Board size is viewed as an important element of board characteristics that may affect earnings management (Abdul Rahman and Ali, 2006). The Jordanian code of corporate governance documents that the number of board members has been left to the internal system of the company, although in all cases it should not be less than 5 members and not more than 13 members. Previous studies failed to provide empirical evidence between board size and the effectiveness of monitoring managers. For example, studies of Yermack (1996), Huther (1997) and Andres et al. (2005) indicated that larger board size might be less effective in monitoring management activities. Nevertheless, Dalton et al. (1999) showed that larger board members provide more advantages for their companies through sharing alternative experience which might decrease the incidence of earnings management.

Previous studies have used board size as a determinant of earnings management, but the influence of board size has received mixed results in previous studies. For example, Abdul Rahman and Ali (2006) found a positive relation between earnings management and board size. However, Xie et al. (2003) and Peasnell et al. (2005) found a negative association between earnings management and board size. Interestingly, Abbott et al. (2000) found no relation between quality of earnings and board size. Thus, based on agency theory, it can be hypothesized that:

H2: There is a significant negative relationship between earnings management and board size

### *2.3 Role Duality*

Consistent with agency theory, the Jordanian corporate governance codes recommend that the role of the chairman should be separated from that of the CEO to ensure that the later would not be in a position with too much power to handle daily business operations. That is, CEO with excessive power over board could easily manipulate income.

The dual office structure also permits the CEO to effectively control information available to other board members and thus impede effective monitoring (Jensen, 1993). However, stewardship theory argues that role duality improve firm performance, because management's compensation is tied to the firm performance.

Previous studies examined the relation between earnings management and role duality. For example, Klein (2002) found that discretionary accrual is positively related to the CEO duality. In contrast, Beasley (1996) documented no significant relation between the likelihood of financial statements fraud and CEO duality. In the same manner, Abdul Rahman and Ali (2006) found that separation between the role of CEO and chairman has no effect on earnings management. Therefore, it can be hypothesized that:

H3: There is a significant positive relationship between earnings management and role duality

### *2.4 Concentrated Ownership*

Agency theory suggests that shareholdings held by managers help align their interests with those of shareholders (Jensen and Meckling, 1976). Furthermore, under the convergence-of-interest hypothesis, insider ownership can be

seen as a mechanism to constrain the opportunistic behavior of managers and, therefore, earnings management is predicted to be negatively associated with insider ownership (Warfield et al., 1995).

Unlike the UK and the US which have dispersed ownership, ownership in Jordanian public listed companies are much more concentrated or owned by family or identifiable group (Al-Fayoumi et al., 2010). Previous studies on earnings management found a negative association between earnings management and insider ownership (Warfield et al., 1995; Chtourou et al., 2001; Abdul Rahman and Ali, 2006). In contrast, Al-Fayoumi et al. (2010) indicated that insiders' ownership is significantly and positively affect earnings management.

H4: There is a significant negative relationship between earnings management and insider ownership

### 2.5 Control Variables

Factors other than corporate governance characteristics may also contribute to earnings management. Therefore, the current study employs two control variables: company size and financial leverage.

#### 2.5.1 Company Size

Previous studies indicated negative relation between company size and earnings management (Klein 2002; Xie et al., 2003; Abdul Rahman and Ali, 2006). This support the idea that smaller companies are subject to less control from authority and therefore, managers are more likely engage in earnings management activities. In contrast, Moses (1987) argued that earnings management activities increase as the size of company increase.

#### 2.5.2 Financial Leverage

Highly indebted firms may be less able to practice earnings management because they are under close scrutiny of lenders. Bartov et al. (2000) showed that levered companies have more incentive to engage in earnings management activities. DeAngelo et al. (1994) and DeFond and Jiambalvo (1994) found empirical evidence of abnormal accruals when firms face binding debt covenants. Debt covenant violation argument would predict a positive relationship between abnormal accruals and financial leverage. In the same manner, Park and Shin (2003) found that financial leverage is negative and significant related to earnings management

#### 2.5.3 Industry

The industry variable measured using a dichotomous variable equal to 1 if the firm *i* is listed in industrial sector, and 0 for service sector.

## 3. Research Design

The study examines all industrial and service companies listed on the Amman Stock Exchange (ASE) for the period from 2006 to 2009. The total number of companies listed in ASE in 2009 is 195 companies. The financial companies are excluded from the study, since these companies possess a unique and different working capital structure (Klein, 2002). The exclusion of the financial institutions results in 132 companies. In addition, 31 of which are deleted due to unavailability of annual reports. As well, 15 of which are excluded from the analysis due to insufficient financial data. In addition, 21 outlier observations are deleted before that analysis has been conducted. Thus, the final sample consists of 329 firm-observations for the companies listed on the ASE for the period 2006-2009.

All the data related to corporate governance variables are collected from the annual reports of the sampled firms. Financial data are collected from the Amman Stock Exchange (ASE) database.

### 3.1 Variables of the Study

#### 3.1.1 Dependent Variable: Earnings Management

In this study, accounting accruals approach is used to measure earnings management. Accruals Includes a wide range of earnings management techniques available to managers when preparing financial statements, such as accounting policy choices, and accounting estimates (Grace and Koh, 2005; Fields et al., 2001). Accounting accruals is the difference between earnings and cash flows from operating activities. In employing the modified Jones' (1991) model, working capital accrual are decomposed into non-discretionary and discretionary accrual. The majority of previous studies have used abnormal accruals (or discretionary accruals, DA) as a proxy for earnings management. Discretionary accruals are used to demonstrate that managers transfer their accounting earnings from one period to another. That is, discretionary accruals are open to managers' manipulation. Additionally, non-discretionary accruals reflect the non-manipulated accounting accruals items because they are out of managers' control.

The current study uses the cross-sectional modified version of Jones' model (Jones, 1991; and Dechow et al., 1995) to obtain a proxy for discretionary accruals. Dechow et al. (1995) and Guay et al. (1996) argued that the modified Jones

model is the most powerful model for estimating discretionary accruals among the existing models. Based on the above argument, DA can be measured as follows:

Total accruals as previously mentioned is the difference between earnings and cash flows from operating activities

$$TACC_{it} = NI_{it} - OCF_{it} \quad (1)$$

Where:

$TACC_{it}$  = total accruals for company  $i$  in year  $t$

$NI_{it}$  = net income before extraordinary items for company  $i$  in year  $t$

$OCF_{it}$  = operating cash flows for company  $i$  in year  $t$

Equation 2 below is estimated for each firm and fiscal year combination

$$TACC_{it}/A_{it-1} = \alpha_1(1/A_{it-1}) + \alpha_2(\Delta REV_{it} - \Delta REC_{it})/A_{it-1} + \alpha_3(PPE_{it}/A_{it-1}) + e \quad (2)$$

$TACC_{it}$  = total accruals for company  $i$  in year  $t$

$A_{it-1}$  = Lagged total asset for company  $i$

$\Delta REV_{it}$  = change in operating revenues for company  $i$  in year  $t$

$\Delta REC_{it}$  = change in net receivables for company  $i$  in year  $t$

$PPE_{it}$  = gross property, plant and equipment for company  $i$  in year  $t$ .

$\alpha_1 - \alpha_3$  = regression parameters.

$e$  = error term.

Non-discretionary accruals are measured for each year and fiscal year combination using the equation 3 as follows:

$$NDTACC_{it}/A_{it-1} = \hat{\alpha}_1(1/A_{it-1}) + \hat{\alpha}_2(\Delta REV_{it} - \Delta REC_{it}) + \hat{\alpha}_3 PPE_{it} + e \quad (3)$$

$NDTACC_{it}$  = non-discretionary accruals for company  $i$  in year  $t$

$A_{it-1}$  = Lagged total asset for company  $i$

$\Delta REV_{it}$  = change in operating revenues for company  $i$  in year  $t$

$\Delta REC_{it}$  = change in net receivables for company  $i$  in year  $t$

$PPE_{it}$  = gross property, plant and equipment for company  $i$  in year  $t$

$\hat{\alpha}_1 - \hat{\alpha}_3$  = regression parameters

The Difference between total accruals and the non-discretionary components of accruals is considered as discretionary accruals (DACC) as stated in equation 4

$$DACC_{it} = TACC_{it} - NDTACC_{it} \quad (4)$$

$DACC_{it}$  = discretionary accruals for company  $i$  in year  $t$

$TACC_{it}$  = total accruals for company  $i$  in year  $t$

$NDTACC_{it}$  = non-discretionary accruals for company  $i$  in year  $t$

### 3.1.2 Independent Variables

This subsection presents the independent variables and their measurements. Table 1 exhibits the independent variables and their proxies employed in this research.

Insert Table 1 Here

## 4. Analysis and Results

### 4.1 Descriptive Results

This Subsection presents the results of descriptive analysis for the dependent and independent variables.

#### 4.1.1 Descriptive Results-Dependent Variable

The descriptive analysis for continuous independent variables of the study are presented in Table 2. The descriptive analyses of the earnings management for the sample of the industrial and service sector are shown in Table 3. As presented in Table 3, for industrial sector, the magnitude of absolute value of earnings management in the sample has a small mean 0.078 with standard deviation of 0.06 and the range is from a minimum of 0.0001 to a maximum of 0.319. This indicates that the deviation between companies is quite small. For service sector, the result shows that

companies' absolute value of earnings management has a mean of 0.188 and standard deviation of 0.339 and the range is from a minimum of 0.0025 to maximum of 2.158. This indicates that in general, service companies use earnings management activities more than industrial companies.

Insert Table 2. & Table 3 Here

#### 4.1.2 Descriptive Results-Independent Variables

Table 4 exhibits the descriptive analysis for continuous independent variables used in analysis. Table 5 presents the descriptive statistics regarding the firm continuous variables which are included in the model considering the effects of them on earnings management for industrial and service sectors. The results show that on average, number of independent directors in service sector is higher than industrial sector (0.36 vs. 0.26). For insider ownership, on average, 24% of shares owned by insider in industrial sector, whereas 27% of shares owned by insider directors in service sector. According to board size, for the both sectors, on average number of board size is 9 members. However, the maximum number of board size is 14 members in both sectors, which implies that in general companies do not follow the Jordanian corporate governance codes which recommends that board members should not across 13 members.

Insert Table 4 & Table 5 Here

Table 6 exhibits information regarding dichotomous independent variable, namely, role duality. As shown in Table 6, for both sectors, industrial and service the result show that companies do not follow the Jordanian corporate governance regulation which recommends companies to separate between CEO /chairman role.

Insert Table 6 Here

#### 4.2 Hypotheses Development

In order to test whether earnings management among Jordanian non-financial companies is significantly associated with variables identified corporate governance characteristics and control variables, a multiple OLS regression analysis is performed using SPSS version 17. Multiple regression assumptions are checked before we run the analysis to ensure that the assumptions are not violated. Table 7 presents the results of multiple OLS-regression analysis. This model is highly significant ( $F = 4.17$  P-Value = 0.01) with an adjusted  $R^2$  7.1%, which means that the combinations of the Independent variables explain around 7 % of variation of dependent variables. Specifically, earnings management is found to be related to board size and industry.

Insert Table 7 Here

In order to test the hypotheses of the study, for H1: There is a significant negative relationship between earnings management and proportion of independent directors on the board.

The results document positive but insignificant relation between earnings management and percentage of outsider in board. The results find no support for H1 and for the previous studies such as Klein (2002), Xie et al. (2003), Sonda et al. (2003) and Peasnell et al. (2005). In contrast, this result is consistent with Park and Shin (2003), Abdul Rahman and Ali (2006) and Osama and Noguer (2007).

For H2: There is a significant negative relationship between earnings management and board size. The results document that there is negative and significant relation between earnings management and board size. This result supports H2 and consistent with previous studies (Xie et al., 2003 and peasnell et al., 2005). However, this result is in contradiction to prior studies that have found a positive relationship between earnings management and board size (e.g., Abdul Rahman and Ali, 2006).

For H3: There is a significant positive relationship between earnings management and role duality. The results failed to find any support of H3. This result is consistent with Beasley (1996) and Abdul Rahamn and Ali (2006). Conversely, the result is in an opposition to Klein (2002) who found that role duality is positively related to earnings management.

For the last hypothesis, H4: There is a significant negative relationship between earnings management and insider ownership. The results report no relation between insider ownership and earnings management, which means there is so support for H4. However, this result is in contradiction to prior studies that have found a significant relationship between earnings management and insider ownership (e.g., Warfield et al., 1995; Chtourou et al., 2001; Abdul Rahman and Ali, 2006; Al-Fayoumi et al., 2010).

For the control variables, the results document that nor company's size neither leverage are found to be related earnings management. Nevertheless, the results documents that there is negative and significant relation between earnings management and service sector.

In order to examine whether the results of the study are sensitive to industry, individual multiple regression analyses are performed for each industry. The results indicate that board size appears to be negative and significant in sectors, industry and service. However, role duality was negative and significant related to earnings management in service sector only. In general, the results of regression models for each industry, tend not to conflict with the conclusion provided by primary analyses of the study.

### 5. Conclusion, Limitation and Future Studies

The objective of this study was to examine the relationship between corporate governance mechanisms and earnings management activities for companies listed on the Amman Stock Exchange (ASE) for the period 2006-2009. The results document no significant relationship between corporate governance factors, with the exception of board size. Corporate governance is viewed in the literature as straightforward agency perspective, and it is sometimes referred to as separation of ownership and control, or separation of finance and management (Shleifer and Vishny, 1997). However, the above assumption may be problematic in an environment such as Jordan, where the agency problem is minimized; since the vast majority of companies owned by identifiable group.

Furthermore, the results show that part of the companies in the study sample do not follow the Jordanian corporate governance regulations, which implies that there is quite low penalties in the case of violation of regulation. Therefore, policy maker should motivate companies to applying corporate governance principles, otherwise they companies should be panelized. The application of corporate governance mechanism is just started in recent years for Jordanian companies, and so they need more time for compliance with the new regulations which may affect the generalizability of our results.

The present study suggests a number of other avenues for future researches. First, the current study examines how corporate governance characteristics affect earnings management. Although field studies and qualitative research methods may raise issues of generalizability, future studies adopting this approach may complement this study by interviewing standard setters and managers to examine the regulation setting process by the former and the motivations for the latter to follow regulations.

Second, this study relies on the view that earnings management activities are undesirable. However, Peasnell et al. (2005) argued that earnings management activities can be viewed as beneficial to shareholder, in particular when earnings management is used in order to improve informativeness of reported earnings. Therefore, future research can be conducted to investigate how much earnings management activities are harmful to shareholders.

Third, future research could be conducted for financial companies, where legal and regulatory authorities may play an important role in monitoring managers' activities.

### References

- Abbott, L. J., Park, Y., & Parker, S. (2000). The Effects of Audit Committee Activity and Independence on Corporate Fraud. *Managerial Finance*, 26(11), 55-67. <http://dx.doi.org/10.1108/03074350010766990>
- Abdul Rahman, R., & Ali, F. (2006). Board, Audit committee, Culture and Earnings Management: Malaysian Evidence. *Managerial Auditing Journal*, 21(7), 783-804. <http://dx.doi.org/10.1108/02686900610680549>
- Al-Fayoumi, N., Abuzayed, B., & Alexander, D. (2010). Ownership Structure and Earnings Management in Emerging Markets: The Case of Jordan. *International Research Journal of Finance and Economics*, 38, 28-47.
- Al-khabash A. A., & Al-Thuneibat, A. A. (2009). Earnings Management Practices from the Perspective of External and Internal Auditors: Evidence from Jordan. *Managerial Auditing Journal*, 24(1), 58-80. <http://dx.doi.org/doi/10.1108/02686900910919901>
- Agrawal, A., & Knoeber, C. R. (1996). Firm Performance and Mechanisms to Control Agency Problems between Manager and Shareholders. *Journal of Financial and Quantitative Analysis*, 31, 377-89. <http://dx.doi.org/10.2307/2331397>
- Andres, P. D., Azofra, V., & Lopez, F. (2005). Corporate Boards in OECD Countries: Size, Composition, Functioning and Effectiveness. *Corporate Governance: An International Review*, 13(2), 197-210. <http://dx.doi.org/10.1111/j.1467-8683.2005.00418.x>.
- Bartov, E., Gul, F. A., & Tsui, J. S. L. (2000). Discretionary-Accruals Models and Audit Qualifications. New York: Working Paper, New York University.
- Beasley, M. S. (1996). An Empirical Analysis of the Relation between the Board of Director Composition and Financial Statement Fraud. *The Accounting Review*, 71(4), 443-465.



- Bedard, J., Chtourou, S., & Courteau, L. (2004). The Effect of Audit Committee Expertise, Independence, and Activity on Aggressive Earnings Management, Auditing: *A Journal of Practice and Theory*, 23(2), 13-35. <http://dx.doi.org/10.2308/aud.2004.23.2.13>
- Brickley, J. A., Coles, J. L., & Terry, R. L. (1994). Outside Directors and the Adoption of Poison Pills. *Journal of Financial Economics*, 35, 371-390. [http://dx.doi.org/10.1016/0304-405X\(94\)90038-8](http://dx.doi.org/10.1016/0304-405X(94)90038-8)
- Cheng, Q., & Warfield, T. (2005). Equity Incentives and Earnings Management. *The Accounting Review*, 80, 441-477. <http://dx.doi.org/10.2308/accr.2005.80.2.441>
- Chtourou, S. M., Bedard, J., & Courteau, L. (2001). Corporate Governance and Earnings Management. Working Paper, University of Laval Canada.
- Dalton, D. R., Daily, C. M., Johnson, J. L., & Ellstrand, A. E. (1999). Number of Directors and Financial Performance: A Meta Analysis. *Academy of Management Journal*, 42(6), 674-686. <http://dx.doi.org/10.2307/256988>
- DeAngelo, H., DeAngelo, L., & Skinner, D. J. (1994). Accounting Choice in Troubled Companies. *Journal of Accounting and Economics*, 17, 113-144. [http://dx.doi.org/doi:10.1016/0165-4101\(94\)90007-8](http://dx.doi.org/doi:10.1016/0165-4101(94)90007-8)
- Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting Earnings Management. *The Accounting Review*, 70(2), 193-225.
- Dechow, P., Sloan, R. G., & Sweeney, A. (1996). Causes and Consequences of Earnings Manipulations: An analysis of Firms Subject to Enforcement Actions by the SEC. *Contemporary Accounting Research*, 13,1-36. <http://dx.doi.org/doi:10.1111/j.1911-3846.1996.tb00489.x>
- DeFond, M. L., & Jiambalvo, J. (1994). Debt Covenant Violation and the Manipulation of Accruals. *Journal of Accounting and Economics*, 17, 145-176. [http://dx.doi.org/10.1016/0165-4101\(94\)90008-6](http://dx.doi.org/10.1016/0165-4101(94)90008-6)
- Dunn, D. J. (1987). Directors Aren't Doing their Jobs, *Fortune*, March, 117-119.
- Ebrahim, A. (2007). Earnings Management and Board Activity: An Additional Evidence. *Review of Accounting and Finance*, 6(1), 42-58. <http://dx.doi.org/10.1108/14757700710725458>
- Epps R. W., & Ismail, T. H. (2008). Board of Directors' Governance challenges and Earnings Management. *Journal of Accounting & Organizational Change*, 5(3), 390-416. <http://dx.doi.org/doi 10.1108/18325910910986981>
- Fama, E. F., & Jensen, M. C. (1983). Separation of Ownership and Control, *Journal of Law and Economics*, 26, 301-325. <http://dx.doi.org/10.1086/467037>
- Fields, T., Lys T., & Vincent, L. (2001). Empirical Research on Accounting Choice. *Journal of Accounting & Economics*, 31, 255-307. [http://dx.doi.org/10.1016/S0165-4101\(01\)00028-3](http://dx.doi.org/10.1016/S0165-4101(01)00028-3)
- Grace, H., & Koh, P. (2005). Does the Presence of Institutional Investors Influence Accruals Management? Evidence from Australia. *Corporate Governance*, 13, 809-823. <http://dx.doi.org/10.1111/j.1467-8683.2005.00472.x>
- Guay, W. R., Kothari, S.P., & Watts, R. L. (1996). A Market-based Evaluation of Discretionary Accruals Models. *Journal of Accounting Research*, 34, 83-105. <http://dx.doi.org/10.2307/2491427>
- Gul, F. A., Chen, C. J. P., & Tsui, J. S. L. (2003). Discretionary accounting accruals, managers' incentives, and audit fees. *Contemporary Accounting Research*, 20, 441-464. <http://dx.doi.org/10.1506/686E-NF2J-73X6-G540>
- Healy, P., & Wahlen, J. (1999). A Review of the Earnings Management Literature and Its Implications for Standard Setting. *Accounting Horizons*, 13, 365-383. <http://dx.doi.org/10.2308/acch.1999.13.4.365>
- Huther, J. (1997). An Empirical Test of the Effect of Board Size on Firm Efficiency. *Economics Letters*, 54, PP. 259-264. [http://dx.doi.org/10.1016/S0165-1765\(97\)00035-9](http://dx.doi.org/10.1016/S0165-1765(97)00035-9)
- Jensen, M. (1993). The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems. *Journal of Finance*, 48, 831-880. <http://dx.doi.org/10.2307/2329018>
- Jensen, M., & Meckling, W. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3, 305-360. [http://dx.doi.org/10.1016/0304-405X\(76\)90026-X](http://dx.doi.org/10.1016/0304-405X(76)90026-X)
- Jones, J. (1991). Earnings Management during Import Relief Investigations. *Journal of Accounting Research*, 29(2), 193-228. <http://dx.doi.org/10.2307/2491047>
- Klein, A. (2002). Audit Committee, Board of Directors' Characteristics, and Earnings Management. *Journal of Accounting and Economics*, 33(3), 375-400. [http://dx.doi.org/10.1016/S0165-4101\(02\)00059-9](http://dx.doi.org/10.1016/S0165-4101(02)00059-9)
- Moses, O. D. (1987). Income Smoothing and Incentives: Empirical Tests Using Accounting Changes. *The Accounting Review*, 4, 358-377.

- Osma, B. G., & Nogue, B. G. (2007). The Effect of the Board Composition and its Monitoring Committees on Earnings Management: Evidence from Spain. *Corporate Governance An International Review*, 15(6), 1413-1428. <http://dx.doi.org/10.1111/j.1467-8683.2007.00654.x>
- Park, W. Y., & Shin, H. H. (2003). Board composition and earnings management in Canada. *Journal of Corporate Finance*, 185, 1-27. [http://dx.doi.org/10.1016/S0929-1199\(03\)00025-7](http://dx.doi.org/10.1016/S0929-1199(03)00025-7)
- Peasnell, K. V., Pope, P. F., & Young, S. (2005). Board Monitoring and Earnings Management: Do Outside Directors Influence Abnormal Accruals? *Journal of Business Finance & Accounting*, 32, 1311-46. <http://dx.doi.org/10.1111/j.0306-686X.2005.00630.x>
- Shen, C-H., & Chih, H-L. (2007). Earnings Management and Corporate Governance in Asia's Emerging Markets. 15(5), 999-1021.
- Schipper, K. (1989). Commentary on Earnings Management. *Accounting Horizons*, 3, 91-102.
- Shleifer, A., & Vishny, R.W. (1997). Large Shareholders and Corporate Control. *Journal of Political Economy*, 94(3), 461-488. <http://dx.doi.org/10.1086/261385>
- Sonda M. C., Bedard, J., & Courteau, L. (2003). Corporate Governance and Earnings Management. Working Paper, <http://paper.ssrn.com>.
- Xie, B., Davidson, N. W., & DaDalt, P. (2003). Earnings Management and Corporate Governance: The Roles of the Board and the Audit Committee. *Journal of Corporate Finance*, 9(3), 295-316. [http://dx.doi.org/10.1016/S0929-1199\(02\)00006-8](http://dx.doi.org/10.1016/S0929-1199(02)00006-8)
- Yermack, D. (1996). Higher Market Valuation of Companies with A Small Board of Directors. *Journal of Financial Economics*, 40, 185-2. [http://dx.doi.org/10.1016/0304-405X\(95\)00844-5](http://dx.doi.org/10.1016/0304-405X(95)00844-5)
- Warfield, T. D., Wild, J. J., & Wild, K. L. (1995). Managerial Ownership, Accounting Choices and Informativeness of Earnings. *Journal of Accounting and Economics*, 20, 61-91. [http://dx.doi.org/10.1016/0165-4101\(94\)00393-J](http://dx.doi.org/10.1016/0165-4101(94)00393-J)

Table 1. Independent Variables and their Measurements

Independent Variables	Code	Proxies
Proportion of independent directors	BIND	Number of independent non-executive directors to total number of board members
Board size	BOARD	Total number of board members
Role Duality	DUALITY	A dichotomous variable equal to 0 if the firm i is separated between the role of CEO and Chairman, and 1 otherwise.
Concentrated ownership	INSIDER	The percentage of shares held by officers or directors within the company.
Control Variables		
Company size	SIZE	The natural logarithm of total asset
Financial leverage	LEV	Total debt to total assets.
Industry	INDUST	The industry variable measured using a dichotomous variable equal to 1 if the firm i is listed in industrial sector, and 0 for service sector.

Table 2. Descriptive Analysis for Earnings Management-Pooled Data

Sector	Mean	Std. Deviation	Minimum	Maximum
Earnings Management	0.133	0.197	0.0001	2.158

Table 3. Descriptive Analysis for Earnings Management Classified by Industry

Sector	Mean	Std. Deviation	Minimum	Maximum
Industrial	0.078	0.060	0.319	0.0001
Service	0.188	0.339	2.158	0.0025

Table 4. Descriptive Analysis for Earnings Management-Pooled Data

Variables	Mean	Std. Deviation	Minimum	Maximum
BIND	0.31	0.32	0	1
BOARD	9.11	2.25	0	14
INSIDER	71	0.47	0	71

Table 5. Descriptive Analysis for Continuous Independent Variables

Variables	Mean		Std. Deviation		Maximum		Minimum	
	Industrial	Service	Industrial	Service	Industrial	Service	Industrial	Service
BIND	0.26	0.36	0.29	0.33	1	1	0	0
INSIDER	0.24	0.27	0.20	0.26	0.95	0.71	0	0
BOARD	9.009	8.994	0.29	2.36	14	14	5	5

Table 6. Descriptive Analysis for Role Duality

Sector	Frequency	% of Frequency
Industrial	32	14.5
Service	39	21

Table 7. The Results of Multiple Regression Analyses of Earnings Management

Variables	Coefficients	t-statistic	P-Value	VIF
Intercept	0.078	2.222	.027**	
BIND	0.007	0.789	0.430	1.099
BOARD	-0.003	-1.967	.050**	1.245
DUALITY	0.003	0.379	0.705	1.110
INSIDER	0.000	0.482	.630	1.020
LEV	0.000	-1.001	0.317	1.027
SIZE	0.002	0.378	0.706	1.310
INDUST	-0.18	-3.026	0.003*	1.116
Adjusted R2	0.071			
Model F Test	4.17 P-value = .01			

\*\* Significant at the 5% level \* Significant at the 10% level

# Call for Manuscripts

*International Business Research* is a peer-reviewed journal, published by Canadian Center of Science and Education. The journal publishes research papers in the fields of business, management, marketing and economics. The journal is published in both printed and online versions, and the online version is free to access and download.

We are seeking submissions for forthcoming issues. The paper should be written in professional English. The length of 3000-8000 words is preferred. All manuscripts should be prepared in MS-Word format, and submitted online, or sent to: [ibr@ccsenet.org](mailto:ibr@ccsenet.org)

## **Paper Selection and Publication Process**

- a). Upon receipt of paper submission, the Editor sends an E-mail of confirmation to the corresponding author within 1-3 working days. If you fail to receive this confirmation, your submission/e-mail may be missed. Please contact the Editor in time for that.
- b). Peer review. We use double-blind system for peer-review; the reviewers' identities remain anonymous to authors. The paper will be peer-reviewed by three experts; one is an editorial staff and the other two are external reviewers. The review process may take 2-3 weeks.
- c). Notification of the result of review by E-mail.
- d). The authors revise paper and pay publication fee.
- e). After publication, the corresponding author will receive two copies of printed journals, free of charge.
- f). E-journal in PDF is available on the journal's webpage, free of charge for download.

## **Requirements and Copyrights**

Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other languages, without the written consent of the Publisher. The Editors reserve the right to edit or otherwise alter all contributions, but authors will receive proofs for approval before publication.

Copyrights for articles published in CCSE journals are retained by the authors, with first publication rights granted to the journal. The journal/publisher is not responsible for subsequent uses of the work. It is the author's responsibility to bring an infringement action if so desired by the author.

## **More Information**

E-mail: [ibr@ccsenet.org](mailto:ibr@ccsenet.org)

Website: [www.ccsenet.org/ibr](http://www.ccsenet.org/ibr)

Paper Submission Guide: [www.ccsenet.org/submission](http://www.ccsenet.org/submission)

Recruitment for Reviewers: [www.ccsenet.org/reviewer.html](http://www.ccsenet.org/reviewer.html)

The journal is peer-reviewed  
The journal is open-access to the full text  
The journal is included in:

AMICUS  
Cabell's  
Canadian  
DOAJ  
EBSCOhost  
EconLit  
ERA  
Google Scholar  
JEL

Library and Archives Canada  
Lockss  
Open J-Gate  
PKP Open Archives Harvester  
ProQuest  
Standard Periodical Directory  
Ulrich's  
Universe Digital Library  
Wanfang Data

## International Business Research Monthly

Publisher Canadian Center of Science and Education  
Address 1120 Finch Avenue West, Suite 701-309, Toronto, ON., M3J 3H7, Canada  
Telephone 1-416-642-2606  
Fax 1-416-642-2608  
E-mail [ibr@ccsenet.org](mailto:ibr@ccsenet.org)  
Website [www.ccsenet.org/ibr](http://www.ccsenet.org/ibr)

