



ORGANIZATIONAL INNOVATION STRATEGIES

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Foreword from the Guest Editor

I am extremely delighted to be a guest editor of the special issue of the International Journal of Organizational Innovation (IJOI), indexed under the latest ERA 2012. This special issue on the theme "Organizational Innovation Strategies" is a joint team work of the faculty members of Graduate School of Business (GSB), Universiti Sains Malaysia (USM), Penang. The Universiti Sains Malaysia (USM) is a world class premier educational Institution in Malaysia with APEX status focuses primarily on high quality research and Journal article publications. A rigorous attempt is made to bring out this special issue to fulfil the achievable goals of USM.

The thirteen research articles in this issue contributed by fifteen faculty members of GSB, USM, deals with various Innovation strategies adopted in the manufacturing and service sectors of Malaysian Industries. This special issue covers topics in Management and Business particularly in the areas of marketing, corporate governance, operations management and organizational behaviour. I am sure this issue will be of immense use to researchers, academicians and industrialists who are working on Industrial Innovation in Asia and particularly in Malaysia. I take this opportunity to thank those faculty members of GSB who have contributed and submitted their research articles on time.

The Dean of GSB, Assoc. Prof. Dr. Sofri Yahaya has primarily initiated this wonderful idea of the special issue, coinciding with the mission and vision of GSB, USM. The editor of IJOI, Prof. Dr Frederick L. Dembowski, has fully extended his support for the timely publication of this special issue. The brain behind this special issue comes from our Deputy Dean for research, Assoc. Prof. Dr. Siti Nabiha who has coordinated with all the faculty

Foreword from the Guest Editor

members, right through to make it happen. This special issue of IJOI would not have been possible without the continuous support of our Dean and Deputy Dean for Research.

I am very much pleased for having given me this opportunity to review some of the research articles in this special issue which addresses the critical issues related to the industrial innovation for Sustainable Tomorrow, particularly to the development of Malaysian Economy. I sincerely thank Mr. S. Kiumarsi, Ph.D., research scholar, GSB, USM for having executed formatting for all the thirteen research articles.

We will strive hard for the continuous growth & innovation and prosper together with others.

All the best and enjoy reading this special Issue of 'The International Journal of Organizational Innovation'.

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GSB strives to nurture competent and holistic business leaders equipped with the relevant skills and initiative needed to make a difference and to lead change in dynamic and competitive environments. This is achieved through a combination of globalized and integrated curricula, contemporary management practices, and applied collaborative research.

About The Publisher

The International Journal of Organizational Innovation, including this *Special Issue*, is published by *The International Association of Organizational Innovation (IAOI)*. The *IAOI* is a professional organization dedicated to the issues regarding organizational, technology, innovation, design, and engineering, and to concerned educators and practitioners. Our mission is to promote organizational innovation literacy by supporting the teaching of organizational innovation and promoting the knowledge and professionalism of those engaged in this pursuit. The *IAOI* aims to achieve this by organizing conferences; building networks of scholars and practitioners in the diverse areas of organizations and innovation; stimulating research and distributing research publications. It accomplishes these goals through the delivery of an annual international conference, publishing books, and an international journal.

The 2015 International Conference on Organizational Innovation will be held August 4-6, 2015 in Yogyakarta, Indonesia. The conference website: <http://www.iaoiusa.org/2015icoi/index.html>

The International Journal of Organizational Innovation (IJOI) (ISSN 1943-1813) aims to provide global perspectives on management and organization of benefit to scholars, educators, students, practitioners, policy-makers and consultants. The Journal is listed in the ProQuest, INSPEC and Ulrich's Databases and is now distributed internationally by EBSCOhost and other distributors.

Some of the primary features of the journal include:

- It is a well established and internationally recognized interdisciplinary journal on organization innovation related topics,
- It has a global reach and global access through major international electronic databases,
- It has a high profile international Board of Editors,
- It has a continuous submission process with quarterly publication,
- It has a timely double blind peer review process, and is endorsed by the IAOI,
- There are no limits on page length of submissions.
- It provides an editing service for authors with English as a Second Language.

The primary topic areas that are published in the journal include:

- Historical/Philosophical Foundations of Organizational Studies
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- Organizational Change & Quality Management
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- Financial Management, Business & Accounting
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- Organizational/Leadership/Management Education & Preparation Programs
- Controls, Evaluation & Assessment
- Technology, IT & Engineering

CASH FLOW INFORMATION AND SMALL ENTERPRISES' PERFORMANCE

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Abstract

The present research article endeavors to investigate the role of cash flow information for decision making as part of cash management on performance of small enterprises. Based on Resource-based theory, cash flow information is expected to influence the performance of small businesses. The samples of small-sized manufacturers are taken from Malaysian SMEs 2010 Directory using stratified random sampling. A total of 209 respondents are considered for this study. The results have shown a positive significant influence of the extent of cash flow information from cash flow statement, cash ratio analysis, cash budget, inventory and bank balance used for financing and investment decision making on profitability performance, but not on growth performance. On the other hand, the extent of cash flow information from account receivable and account payable have shown insignificant influences on growth performance, and provided the negative impact on profitability performance. The study has revealed some key factors of cash flow information applicable to small business' performance.

Key Words: Small Business, Cash Flow Management, Financial Performance, Malaysia

Introduction

The economic development, globalization, financial and economic crisis have contributed some pressure to the growth and survival of small companies. As the predominant mode of business organization in almost all countries in the world, small business performance is an essential economic issue. Despite of the important roles, small

businesses have faced with few performance issues. Among the issues are high number of failures and the slow pace in growth. Small companies are more likely to fail compared with larger ones, and new companies are more likely to fail than older ones. Having to face business challenges, small businesses have to build strategies. Strategy implementation requires the firm to translate either its corporate, business or functional level

strategies into action. In Malaysia, small and medium-sized enterprises account for 97.3% or 645,136 of all enterprises (SME 2011/12). The statistics have proven the huge establishment and predominant mode of business in Malaysia. Despite of their importance, they have strong influence on economic growth, technological progress and employment creation (Multher, 1995), stability and health of technology (Abu Bakar, Sulaiman, & Osman, 2008). The establishment of small and medium-sized enterprises in developing countries is to remedy the problems of unemployment, increase the growth rate of real per capita income and investment, balance income distribution and improve economic stability (Hashim, 1999). Besides, they have evolved to become key suppliers and service providers to large corporations, multinational and transnational corporations and played significant roles as supporting industries to large manufacturers (Hashim, 1999). Therefore, the important role of small business has encouraged the understanding of why firms failed or succeed.

Managing cash flow effectively is a part of functional strategies. However, this strategy is not much studied especially on small business (Scot, Jones, Bramley & Bolton, 1996; Kroes & Manikas, 2014). Managing cash flow information effectively provides benefits to businesses such as revealing cash performance, measuring liquidity and commanding resources capability, and predicting future credit and loan payments (Hodgson & Stevenson, 2000), and determining performance of the firm (Bernstein, Ingram & Lee, 1997). Consequently, cash flow information is highly ranked than other sources of information for decision-making purposes (Atrill & McLaney, 1999). On the other hand, poor quality of cash flow information may mislead creditors regarding cash flow per-

formance and may limit the ability to evaluate the performance of a firm (Geile, 2007). The severe shortfall in cash would lead to difficult situation and has shown that about 80% of enterprises in developed countries have gone bankrupt (Yang, Wang, & Du, 2006). On the contrary, successful owner-managers with financial position knowledge are able to collect, analyze and use more accounting information to enhance their business processes (Palmer & Hott, 1995).

Issues Faced by Small Enterprises

The problem of small and medium-sized enterprises failures is a worldwide problem. For example, the United States has recorded about 87,266 failures in 1991, which was up by 43.7% from 60,746 in 1990 (Lee, 1987). Approximately 20% of businesses closed down during their first year in business, 60% by the fifth year, and 75% by the tenth year (Shane, 1996; Nucci, 1999). In New Zealand, about 65% did not continue beyond their first year of operations. In Malaysia, the high number and percentage of small and medium-sized enterprises failures and discontinues have been reported since the year 2002. About 79,310 small and medium-sized enterprises discontinued in 2002 and the numbers are rising (Che Rose, Kumar, & Yen, 2006). It is also reported that only 10% of the start-ups survived beyond 10 years. According to Shariffudin, Othman, and Foong (2004), about 75.7% of the first year entrepreneurs failed and only 8% to 22% lasted through their next five years in Malaysia. The statistics have also shown that only 1 in 24 start-up entrepreneurs were successful. Subsequently, out of the 37,000 newly-started businesses, about 60% have failed each year in the past five years (Omar, 2006). The fact is that every entrepreneur strives to be successful, but many businesses failed during the first three to five years. At

the national level, the failure of small and medium-sized enterprises could severely affect the employment rate, contribution to GDP and national economy.

The other notable performance issue of small businesses is the slow pace in growth or no growth at all. A study conducted by Hashim and Osman (2003) on 151 small and medium-sized enterprises reported that about 53% of the samples experienced an annual growth rate of less than 50% for the past five years. Only 17.9% of the samples ranged their annual growth rate between 50% to 90% and only one sample has reported to grow at 100% rate. Unfortunately, 28.5% of the samples did not grow in the past five years. The low performance can also be seen in small businesses going international. SMIDEC (2008) reported that only 8% of the total number of small and medium-sized enterprises had expanded internationally and the contribution was only 19% of the total exports. This position does not reflect the target of the Seventh Malaysian Plan (1996-2000), which was to enhance the capacity of small and medium-sized enterprises to be competitive and export-oriented. Thus, the high rate of failures, the slow pace in growth and low numbers of international expansion have led to the failure to achieve the economic targets and the visions of the government. The failures and slow growth of small businesses would worsen during financial crisis and depression. The financial crisis in 1997 has led to the collapse and bankrupt of many small and medium-sized enterprises (Lakis, 2004). The recent survey on 1,248 of the businesses has shown that about 83% of small and medium-sized manufacturers were affected due to financial crisis (SMIDEC, 2008). Again in the first quarter of the year 2009, the slow growth momentum of small and medium-sized enterprises was due to the global eco-

nomie depression, in which 21.6% were severely affected (Ahmad, 2009). There are many challenges faced by small businesses that probably contribute to their failures and slow growth.

Cash management is among the most common challenges to small businesses. For example, the problem of managing cash has resulted in them failing to pay back their debts (SMIDEC, 2005). Non-performing loans (NPLs) are the implication of the inability to repay loans. It was reported that there were about 9.1% and 11.1% of NPLs in March 2008 and 2007 respectively (SMIDEC, 2007). Malaysian Investment Development Authority (MIDA) has reported that in 2008, about 37.8% of NPLs have been given further help. Subsequently, at the end of the year 2008, there were about 763 applications for NPLs at the value of RM 527 million (SMIDEC, 2007). Inability to generate necessary cash flows to meet their loan payments (Whah, 2006) and cash flow management (Ahmad, 2009) were the serious issues mostly faced by small businesses during the time of economic crisis and depression.

Literature Review

The studies on factors of small and medium-sized business survival are very rich (Lussier & Pfeifer, 2001). However, some conceptual flaws and variables gaps still remain. The analysis on past entrepreneurial researches from 1987 to 1993 by Murphy et al. (1996) found that less than half of the inter-correlations of performance measures are significant. Consequently, more than 25% of the significant correlations are negative. The analysis on the studies from late 1990s to 2000s still have shown the inconsistent impact of various determinants on small and medium-sized firm performance.

The work by Maes et al., (2005) divided the internal or endogenous factors of small and medium-sized enterprises performance into three categories; owner-manager level, management practices and company characteristics. The study found that a lot of researches have focused on the owner-manager level factors such as the personal characteristics of owner-managers, personality attributes of owner-managers, personalities of entrepreneurs, entrepreneurial action, proactive and competitive aggressiveness and entrepreneurial orientation. While, the second category of research focuses is on the impact of internal factors or management practices of small business. These include planning sophistication, capital structure and intensity, service level or product quality, use of information systems, record keeping, and professional advice, social, supporting and inter-firm network, financial reporting practices, and supply chain integration. Generally, the studies on management practices are still ongoing. Consequently, many authors attribute small business failure to the lack of managerial practices (D'Amboise & Muldowney, 1988). Similarly, management practice is claimed to be more significant than personality attributes (Wijewardena & Tibbits, 1999) and having the most significant impact (Maes et al., 2005) in explaining the varied growth of small business. However, the factor that provides great impact is yet less emphasized and should continue to be emphasized. Finally, the third category of studies stresses on the importance of company characteristics, such as size and maturity or age (Roper, 1998). Maes et al., (2005) have shown that the owner-manager level and company characteristics have no direct significant impact on financial performance.

The above findings imply that the management's practices are expected to associate more with the high business performance.

Upon reviewing previous studies and gaps, this study is further investigating the management practices particularly in using the firm's resources with the application of Resource-Based Theory. The RBT has become one of the most influential perspectives guiding strategic management research and the empirical work offers strong support to assertion that the organization's performance is enhanced to the extent that they possess strategic resources.

Accounting Information for Decision Making for Small Business

The cognitive ability through the use of information for decision-making is the most valuable capability that creates heterogeneity resource for entrepreneurship. The cognitive ability such as a manager's skill and know-how, knowledge, strategic decision-making are likely to be valuable, rare, hard to imitate, and non-substitutive (Alvarez & Busenitz, 2001). It creates a heterogeneity resource that leads to the better performance of the businesses. The studies on accounting information and small business started as early as 1960s. it started with the financial ratio studied by The Bureau of Economic and Business Research, Temple University in Philadelphia in 1961 (McMohan & Holmes, 1991). In 1987, Thomas and Evan-son (1987) have extended the impact of financial ratios in making operation decision and success of small retail business, but found no significant relationship. Later on, DeThomas and Fredenberger (1985) found that small enterprises have formal record keeping systems and financial statement, but did not use the information for decision-making. McMohan and Holmes (1991) explored the association between historical financial reporting and analysis practices with the growth and financial performance

of small enterprises, but the direct causal link what stated to be difficult to establish.

However, later studies have shown more significant relationships between small business performance and accounting information. For example, Collis (1994) who examined the financial information usage of 385 private limited and small companies in UK found that the most useful sources of monthly management accounts and cash-flow information led to the success and survival of the businesses. Another study by Palmer and Hott (1995) found that the successful owner-managers collected and analyzed more on different accounting information. In the years 2000 onwards, studies have given better scenario on the usage of accounting information to small businesses. McMohan (2001) found that the extent and frequency of financial reporting practices influences business growth and performance among 1,763 SMEs in Australia. Argiles and Slof (2003) found that the financial performance of small Catalan farmers using the reports for decision-making purposes was significantly better than those who did not use the reports. Consequently, Dyt (2004) found that 97% of the businesses maintained their records and gathered the financial information. The study also found that 70% of the respondent reflected favorable view of the usefulness of cash-flow information.

Another significant study by Mohd Harif and Osman (2008) showed that financial planning and control, financial accounting, and working capital management were core components of SMEs and highly practiced. These included Cash Flow Statement, inventory and cash management. The recent study conducted in Malaysia by Jaffar et al., (2011) who investigated the perceived usefulness of selected accounting information presented in the SMEs' financial statements

found the usefulness of accounting information from 31 information including inventory, cash provided by operations, current assets and current liabilities. Thus, the study increased the significant importance of accounting information particularly inventory, cash flow statement, cash management to small businesses.

Generally, the studies on usage of accounting information for decision-making started with the simple information such as financial ratio and evolved to a more comprehensive reporting. However, the studies have shown inconsistent results. Thus, it can be concluded that the studies on small business have shown the extension of accounting information preparation from financial ratio to formal record keeping, financial statement, cash-flow statement, and other management accounting reports to the influence of accounting information on small business performance.

Research Methodology

This study uses a firm as unit of analysis and the data used to test the hypotheses is the primary data. The data of this study were gathered from 209 small manufacturers in Malaysia. The sample was taken from the SME Directory 2010, using stratified random sampling. This study uses proportionate stratified random sampling that classifies the samples into ethnics as the sub-group, namely Malays, Chinese and Indians and they are mutually exclusive. Each stratum is established to ensure homogeneity, with very few differences on the variables of interest within each stratum but having heterogeneity between strata. Data were obtained through mailed questionnaires from owner-managers who own and manage their firms. It is a cross-sectional study where the

questionnaires are sent to the selected respondents between years 2011 to 2013.

To accomplish the study, the questionnaires used are the adopted questionnaires from the previous studies. This study uses two dimensions of financial performance namely growth and profitability. Profitability embeds the notion of strength of the business relative to the competitors and is measured by averaging the financial profitability ratios of return on asset (ROA), return on equity (ROE) and return on sale (ROS) in the year 2010. This study adopts the business performance composite measure (BPCM) as the mean values of ROA, ROE and ROS (Hashim, 2000). The reliability of this scale is high with a Cronbach's alpha value of 0.81. In this study, the respondents are asked to provide the company's net profit over the total sales in percentage and total sales in the year. The profit or return for the present year is then found by multiplying the percentage of net profit over total sales with the total sales of the year 2010. Then, the ROS, ROA and ROE are calculated by dividing the return or profit over sales, asset and equity in 2010. In the meantime, growth dimension embeds the notion of the well-being of the business relative to the competitors. A ratio of sale growth is computed by dividing the last-year to the first-year firm's sales (Davidson, 1991). Sale growth of this study is computed as a ratio of last-year to first-year firm's sale for a three-year period (2008 and 2009; and 2009 and 2010). Then, the average sales ratio is derived by dividing the total sales ratio by two.

The context of this study focuses on the most relevant tool in decision making or business transactions to small businesses that are financing and investment decision. Thus, the extent of cash flow used for financing and investment decision making is

divided into two dimensions. The first dimension is the extent of cash flow information from CFS, cash budget, cash analysis, inventory and bank balance used for decision making. While, the second dimension is the extent of cash flow information from account receivable and account payable used for decision making. This study uses the instrument by Chong (1996) to measure the extent of accounting used for decision-making. They are asked to consider the extent of the information used in the context of the daily decision making practices. The extent of cash-flow information used is measured using the weighted average. The weighted average is produced by multiplying the frequent usage and the importance of the information in making the decision. The mean is computed from the weighted average of the cash flow information in making the decision. The higher the mean of the weighted average, the higher is the usage of the cash flow information used for decision making.

Significant Findings and Results

The extent of cash flow information from CFS, cash ratio, inventory, cash budget and bank balance used for financing and investment decision making had made stronger contribution is explaining the profitability with a beta coefficient of 0.213. This result of the analysis showed that the variable is statistically significant and unique contribution to the profitability at p value 0.034. Consistently, the extent of cash flow information from accounts receivable and accounts payable for financing and investment decision making were found to contribute significantly to profitability at p value 0.014. However, this relationship has a negative beta coefficient of -0.246. Thus, the extent of cash flow information from CFS, cash ratio analysis, inventory, cash budget and

bank balance used for decision making had significant positive relationship on profitability. On the other hand, the negative beta weight of account receivables and account payables indicates that if the profitability performance is to be increased, it is necessary to reduce the extent of cash flow information from accounts receivable and accounts payable used for decision making.

Both of the information from accounts receivable and accounts payable are significantly influenced the profitability performance of the small-sized enterprises, but leading to different directions. The growth performance did not show a significant influence with $R^2 = 0.021$, $F = 1.904$, $p = 0.112$. The result also indicated that the model of the relationship between the extent of cash flow information used for investment and financing decision making and growth performance of small businesses was not significant. Thus, each of the cash flow information for decision making did not influence the growth performance of small businesses.

Discussion and Conclusions

The focus of the study is placed on the most basic and important resources to small businesses namely cash flow information used for decision making. The extent of cash flow information for decision making consists of two dimensions. The first dimension is the extent of cash flow information from cash ratio analysis, inventory, cash flow budget, bank balance, and cash flow statement for investment and financing decision making. The second dimension is the extent of cash flow information from accounts receivable and accounts payable for investment and financing decision making. The analysis has

shown that only the extent of cash flow information from CFS, cash flow budget, inventory, cash flow ratio, and bank balance used for decision making has contributed significantly to profitability performance of small businesses. This means that the higher the information used for decision making, the higher the profitability performance of the small business.

However, the extent of cash flow information from accounts receivable and accounts payable is negatively influencing the profitability performance of small manufacturers. This means that the higher the extent of usage of cash flow information from accounts receivable and accounts payable for decision making, the lower the profitability performance of the small businesses. Consistently, Niskanen and Niskanen (2000) have found that sales growth is negatively associated with accounts payable. This indicated that the faster a firm grows, the less it will use trade credit in its financing. The study has come to the agreement that firms in trouble use more accounts payable.

Therefore, the maximum amount of accounts payable used by firms who grow slowly and those who not grow at all. While the minimum amount of the accounts used by higher and faster growing firms. In conclusion, the performing firms do not make use of less account payable. Thus, the results of this study is consistent with those of previous studies on the negative association between the extent of usage of accounts receivable and accounts payable for decision making on small firms' performance. As the conclusion, cash flow information used decision making provide the impact to the performance of small businesses.

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SUSTAINABLE FINANCIAL SUPPLY CHAIN IN GLOBAL MANUFACTURING COMPANIES

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Abstract

The present article illustrates the new dimensions of the global financial supply chain for the manufacturing industry. The financial supply chain is an integral component of overall supply chain management. Physical products, information systems, financial flows and sustainable elements are closely aligned with each other throughout the supply chain incorporating manufacturers, customers, suppliers and financial organisations. The manufacturer shares financial data with its suppliers as part of a cooperative strategy that generates cost savings for the manufacturers and its suppliers. The cooperative strategy also improves the quality of the payment process and produces strategic benefits; such as risk reduction for the supply chain in areas including foreign exchange and payments. The development of financial supply chains along with sustainable financial elements lead to significant savings in terms of funding, banking and administrative costs associated with payment activities. The supply chain management literature has not fully addressed the development of financial supply chains. This study looks into a new and unexplored research area by addressing the inter-relationships between finance and manufacturing supply chains which is of a direct relevance to researchers in supply chain management.

Key Words: Financial Supply Chain; Global Manufacturing; Banking and Payment; Sustainable Supply Chain.

Introduction

Supply Chain Management (SCM) consists of the planning and management of all activities involved in sourcing and procurement, conversion and logistics. It is the integration of key business processes from end user through to original suppliers that provides products, services, and information that add

value for customers and other stakeholders (Fawcett, Ellram and Ogden, 2007). In other words, SCM integrates supply and demand management within and across companies. A global supply chain refers to the network created among different worldwide companies producing, handling, and distributing specific goods and/or products. In fact, global SCM systems rely on financial proc-

esses in addition to manufacturing, logistics and marketing activities to coordinate the flow of goods, services and money between separate stages in the supply chain. Global financial supply chain refers to the set of solutions available for financing specific goods and/or products as they move from origin to destination along the supply chain. In a financial supply chain, financial business processes are managed through information technology based systems and the sharing of information within and between organisations. To reflect the critical role of information technology combined with management systems, the term “financial and banking information systems” is used in place of management components. Network structure has been identified as a key feature in the supply chain literature and this concept applies equally to the network structure of organisations and banks involved in the financial supply chain.

Finance supply chain practices have been in place for some time. Three distinctive finance supply chain structures have crystallized. The first is buyer managed platforms where the buyer owns and runs the Supply Chain Finance platform. Second is a bank proprietary platform where the finance structure is managed by large commercial banks providing the technology platform, services and funding. This structure is used by several large buying organizations such as Carlsberg and Marks and Spencer. The third is Multi-bank platforms where third party supply chain finance providers offer multi-bank platforms. Giant companies such as Volvo and Whirlpool use this practice. The development of integrated financial supply chains will bring cost savings to companies in terms of funding, banking and administrative costs. The reason for considering financial supply chains as an integral component of supply chains is that the flow

of money and related financial and banking services is coordinated by shared financial processes that connect each stage of supply chain. This process is similar to the way that manufacturing and logistics processes manage the flow of products; from raw material suppliers through to manufacturing, distribution and retail (Camerinelli, 2009). Looking at the complexities of modern financing and payment techniques, invoicing; including invoice automation and discount management initiatives; we need a framework to ensure that programs are approached on a strategic basis which bridges the supply chain, purchasing, accounts payable and finance organizations. In today’s volatile business world, the interdependency between manufacturing and financial supply chains makes strategic changes more complex. This partly explains the long time-scales involved in the implementation of standardised financial processes based on automated systems.

Background of the Study

The evolution of Malaysia’s global manufacturing (MGM) financial supply chain strategy emerged in the year 1970. Only in the late 1990s, electronic payment systems were gradually used for most payments worldwide. Electronic payment can operate inter-company payment and payments that do not require comprehensive banking details. Some MGM companies have implemented the financial supply chain system to collect payments through the netting system. In the early 2000s, some of the MGM companies using in-house banks had to change to international bank cash management centres. The inclusion of insurance payments increased the scale of the netting system and reduced the transactional costs of currency trading and foreign exchange processes. By implementing this system the MGM compa-

nies were able to centralise the management of surplus cash and short-term funding internationally. More payments were processed electronically and quality of payment improved. It benefitted suppliers and their cash flow position. Malaysian global manufacturing companies achieved improvement in scale efficiencies. Furthermore, a dedicated specialist team were formed to handle the foreign payment system. This further reduces errors in the payment and foreign exchange processes. The operational benefit generated includes easily resolved payment errors and improved service levels. The internal operational processes with the global treasury function are examples of best practice in the treasury management function. The strategic innovation lies in the use of the centralised treasury function to manage supplier payments and collect funds from customers. It is vital to minimise errors and this is the main reason that MGM companies apply quality management strategies to its manufacturing supply chain and as well as financial supply chain (Marquardt and Reynolds, 1994). In summary, from 1990 to 2013 Malaysian global manufacturing companies have implemented a financial supply chain system which led to significant operational enhancements.

Literature Review

Financial processes such as invoices, payments, and foreign exchange and banking transactions have received very low attention in supply chain literature. Although financial supply chains are an integral component of supply chains, there is very little research available in this area. For example, few MGM companies examined the integration of data from financial and product supply chains to explore how companies can increase the efficiency of financial processes. They would do this by integrating

data from physical processes involved in the movement of goods and services with financial processes. Gupta and Dutta (2011) studied the flow of money between customers and suppliers. Hofmann (2011) analysed two specific aspects of financial supply chains i.e. risk and supplier financing in the automotive industry. The aim of financial supply chain is to improve the overall financial performance of the affiliated firms and to mitigate the overall financial (and operational) risk of disruption in the supply chain. However, not many of the large organisations are paying attention to the coordination of financial supply chain and product supply chain. This is because the activity scope of the financial supply chain is very broad (Mark & Eirk, 2013). It spans from how receivables from customers and inventory are financed within and across the firm; extended payable terms to suppliers which can be used as a source of finance and the impact of effective management in financial terms (Mark & Eirk, 2013). When the financial supply chain disconnects with product supply chain, it causes risk to global production systems where outsourcing and sourcing managements lead to more complex supply chain managements and risk management strategies (Chopra and Sohdi, 2004). This would result in uncertainty for the supply chain. When the financial supply chain does not work closely with the product supply chain, it is common for large organisations to delay payment beyond the agreed credit period. The problem for the suppliers is the uncertainty on the other exact payment date because of the operational inefficiencies of the customer's financial processes and the additional delays introduced by the banks in the payment process. The delay and uncertainty on future payment receipts increases the financing cost for the suppliers because they must hold higher cash balances to support working capital requirements.

Suppliers will also expose them to foreign exchange risks as the exchange rates often fluctuate between the time of the sale and when the payment is received. Hence, the globalisation of manufacturing operations and sourcing (Dic-ken, 2007) requires more sophisticated international payment systems and foreign exchange processes (Holland, Lockett, Richard & Blackman, 1994)

A financial supply chain is a network of organisations and banks that coordinate the flow of money and financial transactions via financial processes and shared information systems in order to support and enable the flow of goods and services between trading partners in a product supply chain (Mentzer, Stank and Esper, 2008). Based on Lambert et al (1998) supply chain management framework, the study has identified three, interdependent supply chain dimensions: business processes, management components and network structure. Therefore, the financial supply chain strategy is an adaptation with some changes of the supply chain model proposed by Lambert et al. (1998) and is defined by the set of four inter-related constructs: financial business processes, financial and banking information systems, financial network structure and sustainable financial supply chain. The financial supply chain strategy is applicable to the manufacturing and logistics supply chain strategy (Heuser and Brockwell, 2009). The changes in the product supply chain such as new suppliers increased globalisation of operations and new commercial arrangements (Dicken, 2007) placing further demands on the financial supply chain. Similarly, new capabilities in the financial systems such as certainty of payment on a specific future date, guaranteed in a local currency and at a fixed exchange rate may enable better trading relationships. The performance of the financial supply chain is defined by the

quality of operations, financial operational benefits such as reduced cash balances and better foreign exchange rates, and strategic outcomes such as the development of a global payments factory. The important aspect of performance is that it should be measured dynamically and related to the evolution of the financial supply chain strategy in order to develop a better understanding of how changes in the financial supply chain strategy are empirically related to performance.

Financial Business Processes

The financial business process is defined as the set of activities involved in the coordination of financial transactions within and between separate companies that comprise a manufacturing supply chain and their banking partners. The financial business processes include invoices, domestic and international payments, foreign exchange transactions and remittance advice. The financial business processes generally operate in-line with manufacturing and logistics processes. Inefficiency in financial business processes results in delayed payment to suppliers and exposure to foreign exchange risk. This can be due to inaccurate or incomplete data on suppliers resulting in the payment rejected by the electronic system and in its place a cheque issued. Any inefficiency in payment systems or payment delays requires additional work. The relatively small number of staff in the treasury department who had experience of how the netting system worked also meant that the company was over-reliant on key individuals for specific knowledge. This exacerbated operational difficulties and also made it more difficult to understand the root causes of payment errors. The MGM company internal operational processes which link with the global treasury functions are examples of best prac-

tice in the treasury management function. The strategic innovation lies in the use of the centralised treasury function to manage supplier payments and also to collect funds from customers. It is therefore vital to minimise errors; which is why some of the MGM companies apply quality management strategies like six sigma to financial supply chain and the manufacturing supply chain (Marquardt and Reynolds, 1994). The de-

sign of automated systems based on standardised financial processes is important because it enables high levels of quality in a high volume transaction environment. It therefore reduces the administrative and banking costs and enables a more refined and focused approach to strategies such as just-in-time (JIT) payments than would otherwise be possible.

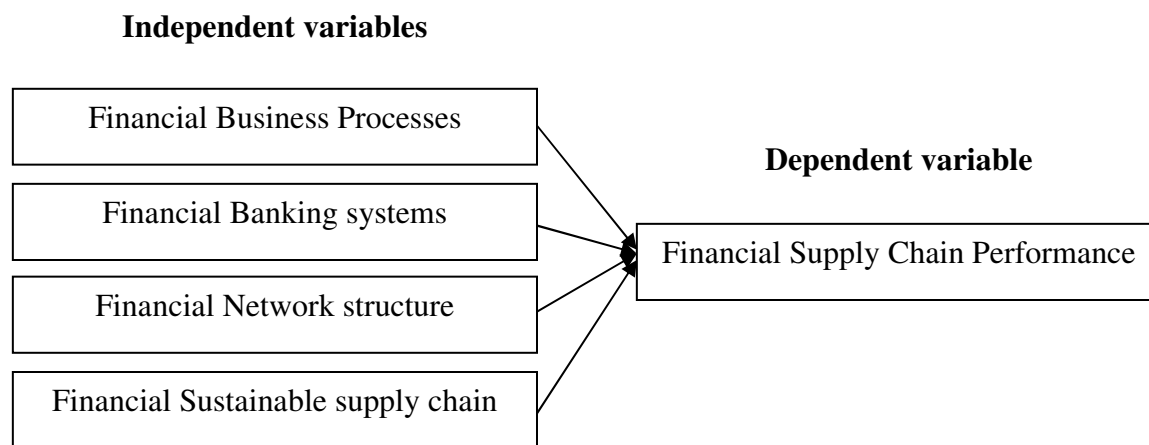


Figure 1: Research Framework for Financial Supply Chains Strategy

Financial and Banking Information Systems

Multinational organisations have gained huge benefits from the integration of management processes within their organisations through the use of Enterprise Resource Planning (ERP) systems that have been accompanied by the development of shared information systems along the supply chain, either simple electronic data interchange (EDI) systems or more sophisticated electronic business standards such as the internet (Holland, Lockett, Richard and Blackman, 1992; Lancioni, Smith and Oliva, 2000). The important point to note here is that the business processes in the supply chain are

enabled and connected by information systems, and this is also true for financial processes. Introducing financial supply chain management via the enterprise resource planning (ERP) system allowed shared information systems and business processes with supply chain partners that utilise business to business exchange of electronic data. The financial processes also utilise banking systems that have been designed specifically to manage inter-organisational and international financial transactions which will improve the whole supply chain management process. Global manufacturing companies in Malaysia have maintained a focus on integrating suppliers into the financial supply

chain in the same way that operational improvements in the manufacturing supply chain have been achieved by sharing systems and business processes across organisational boundaries. An important outcome is that suppliers gain much better information on international payments, foreign exchange and banking data. This is the financial equivalent of reduction in variability between supply chain partners to reduce operational risk; as identified by Manuj and Mentzer (2008).

Financial Network Structure

Financial network structure is defined as the organisational arrangement of business relationships that connect the focal organisation with its customers, suppliers and banks through multiple tiers of the supply chain (Heuser and Brockwell, 2009). These organisations facilitate financial activities such as the international movement of funds, foreign exchange and the integration of financial processes with the movement of goods and services through the manufacturing supply chain. The banks also carry out related services such as cash management and financial risk management associated with international trade. The mapping out and description of financial network structures is an important contribution to defining, modelling and improving our understanding of how such systems work. An important aspect of financial supply chain strategy has been to concentrate its banking businesses with sole bank partners for global netting and payments respectively. For example a global manufacturing company has appointed a dedicated international banker to manage the global netting system and global payments network. Both banking processes are of strategic importance and therefore require stability in the financial processes and information systems in order to achieve high

levels of operational performance. In contrast, foreign exchange is more straightforward and is much more centralised. Here, the bank partnership approach is to use a defined network of strategic partner banks that ensures active competition in foreign exchange rates whilst maintaining high levels of quality in operational performance. The scale of a global manufacturing company and banking requirements makes it a valuable to customer. It allows the global manufacturing company to negotiate services to meet specific needs as well as competitive prices. The operational performance of the financial supply chain is tracked and monitored closely, and banks must work with the global manufacturing company in a cooperative manner to achieve continuous process and quality improvements, and respond quickly to operational problems. Again, this type of relationship is common with its manufacturing partners, and similar quality control systems are being used to manage the financial processes.

Sustainable Financial Supply Chain

Most characterisations of sustainability combine contemplation to at least economic and environmental concerns. CSR conceptualisations also look at how social and environmental issues interlink. Sustainability is something that has started to appear in business disciplines including supply chain management. It refers to a combination of environmental, social and economic responsibilities. The issue of sustainability appears in most areas of supply chain management including retrieving raw materials, manufacturing, packaging, warehousing, transportation, distribution, consumption, disposal and return. Managers are able to inspect inbound and outbound logistics activities across the value chain. Examples include packaging use and disposal and warehouse safety.

Transportation impacts like emissions and safety are also inspected. Operations issues like, energy use, emissions, dangerous materials, and worker safety are also considered (Porter & Kramer, 2006). Supply chain management practice is complete by the adoption of a sustainable financial supply chain. This involves environmental integration, social responsibility and financial viability.

Environmentally sustainable supply chain management can aid organisations by reducing their carbon footprint and addressing environmental issues, as well as achieving increased profits and cost savings through the execution of operations. This highlights the importance of environmental performance in a financial supply chain's success. Sustainability matters also need to be considered in relation to the transportation and distribution of products because logistics is a vital part of the supply chain management. Transport firms need an increased awareness in the reduction of air pollution from vehicles and transport so that they can play their part in reducing their carbon footprint. Companies that adopt sustainable practices will be more desirable. Certain companies try to use an incentive for the suppliers to become more environmentally conscious by offering a reward. For example, company introduce a scheme of 10 days early payment to the client who has complied with the ISO 14000, whilst the client who is not certified under ISO 14000 will get their payment within 30 days (with no discount in number of days). In the West, some companies and firms have started applying these values.

In October 2008, Lee Scott; Wal-Mart's CEO, gave more than 1,000 suppliers in China an instruction to decrease waste and emissions; cut packaging costs by 5%; and

heighten efficiency of products supplied to Wal-Mart by 25% within 3 years. Unilever is another example, declaring that by 2015 it will be purchasing palm oil and tea only from sustainable sources. Staples say that by 2010, most paper based products will come from sustainable-yield forests. Sustainable supply chain management is already integrated into organisations on a global scale.

Financial Supply Chain Performance

The principal method used to tackle the supply chain performance is the application of the manufacturing statistical process control method, six sigma (Marquardt & Reynolds, 1994). The aim of using six sigma is to eliminate defects in the manufacturing related processes. The six sigma technique is also relevant to determine financial supply chain performance. It focuses on quality processes within the treasury function and the operating companies, particularly on measuring, improving and controlling the accuracy and completeness of bank data for suppliers. A summary of the performance results and strategic outcomes of this study is shown in Table 1. The overall performance results can be grouped quite naturally to the adapted framework from Gunasekaran, Patel and Tirtiroglu (2001). The integration of financial processes along the supply chain is a logical and natural development that builds on the emergence of global integrated supply chains designed around logistics and manufacturing systems (Coe, Dicken and Hess, 2008).

From the long term supply chain performance perspective, the relationship occurs between buyers and suppliers concerning environmental activities such as working with suppliers to commit to waste reduction goals and developing capable minority business enterprise suppliers. This takes time, can have a strong positive influence on supplier

performance and reduced operating costs in supply chain relationships (Carter, 2005).

Discussion

The interdependency of the financial supply chain and the manufacturing supply chain are able to build a sophisticated global treasury management and payments system in the global production network, because the financial system uses core supply chain data to support its business processes. For example, purchase order information must be extracted from the enterprise systems used by global manufacturing company entities worldwide, which use a common version of the same global ERP system. This enables the treasury function to exploit the availability of global supply chain management data and to set up centralised payments and treasury functions. The critical role of information technology to enable innovation in the financial supply chain is comparable to research by Dehning, Richardson and Zmud (2007), who demonstrated the positive effects of Information technology on the performance of manufacturing supply chains. The interdependency between manufacturing and financial supply chains also makes strategic changes more complex, explaining the long time-scales involved in the implementation of standardised financial processes based on automated systems.

This study shows the importance of financial supply chains to the supply chain management field. The relationship of each strategy is illustrated and validated in how these financial supply chain strategies influence and help to achieve the financial supply chain performance. On the other hand, it also shows how the bank network structure has increased the competition between banks, lowering the cost to global manufacturing companies. In general, it shows how the fi-

nancial business process is driven by banking information system and financial network structure. This study shows a good example to other companies that cooperative partnership between suppliers and banks play an important role as companies can have better financial management on a global scale. This gives a new approach to the financial managers to change their mindset to work closely with the manufacturing and logistics managers within the company in supply chain management. This showed how important financial staff and managers are in making and contributing to overall strategic directions. Finally, it gives some future trends of banking system development and how the banking system helps to integrate and enhance the relationship between manufacturer and supplier in supply chain management. The important role of IT and manufacturing can be shown in the development of global systems with banks and suppliers. These strong supports networks are needed for the success of the change in supply chain management in global manufacturing companies.

Table 1: Summary Of Performance Outcomes For The Financial Supply Chain

Benefits	Financial Supply Chain Performance
Financial business process improvement	<ul style="list-style-type: none"> -Improved internal financial processes for payments and foreign exchange. -Improved inter-organisational processes with banks and suppliers for international payments.
Financial network structure & banking information efficiency	<ul style="list-style-type: none"> -Reduced payment volumes between international subsidiaries. -Reduced foreign exchange volumes with banks because of internal netting. -Administrative savings for managing payments and treasury functions on a global basis arising from lower error rates in the financial processes -Foreign exchange hedging linked to the purchase order. -Improved decision support for negotiating banking transaction charges for payments and foreign exchange deals centrally. -Improved cash flows to suppliers because of more frequent and timely payments.
Strategic outcomes	<ul style="list-style-type: none"> -Ability to manage financial supply chain globally. -Strengthening of relationships with manufacturing partners and customers. -Closer alignment of finance processes with physical supply chain so that cash flows mirror product flows. -Management of the financial supply chain as a cohesive unit leading to network benefits that are shared between the manufacturing company and its suppliers.

Conclusions

This study provides a new approach by adapting the concept from Lambert et al. (1998) to focus on the financial supply chain in supply chain management instead of the manufacturing and logistics field. The study shows how the financial supply chain plays a vital role in supply chain management. It also shows how the sustainable elements, product and flow of money interdependencies evolve in changing the manufacturing supply chain. As a result, this innovative financial process enables an improved relationship between customer, supplier and banks. In the theoretical framework, the financial process model explains coordinating and managing the transaction activities between the trading partner and company in a supply chain context. Information technology infrastructure is focusing on improving the integration between manufacturing and logistics with financial transactions globally. Furthermore, financial network structure plays an important role in describing the integration between financial process, information flow, inter-organisation relationship

and sustainability components in the supply chain management.

From the study, the financial supply chain performance framework provides the significant benefits to the MGM companies such as reduced international payment, exchange rate cost, reduced banking charges and reduced risk from foreign exchanges. By using this framework, it can help the company increase ability to manage the financial supply chain on a global scale. This financial supply chain strategy is implemented through step by step changes in financial business process, network structure and information system designs. The flow of product and services is supported by the manufacturing supply chain run by parallel financial and banking systems. It shows how the movement of finance can be used to track the movement of goods in a concomitant way instead of being run separately. Through this financial supply chain strategy, supplier also gained from sharing the financial systems with global manufacturing companies where it can help to improve the cash flow, minimise the administration costs and reduce the risk of currency fluctuations.

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ORGANIZATIONAL CULTURE, TRANSFORMATIONAL LEADERSHIP AND PRODUCT INNOVATION: A CONCEPTUAL REVIEW

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Abstract

In rapid change and competitive world, business organizations need to continue to innovate in order to remain relevant in market space. Innovation has been identified as one of the key factors that affect competitiveness. Despite many research on the impact of innovation toward business performance being discussed, innovation adoption remain unclear and poorly understood. Most studies provide descriptive analysis on innovation influence factors, but unable to provide in-depth understanding on innovation implementation. Various study from US, Europe, Japan and Korea strongly link success of innovation through culture and leadership. As such, the paper will provide descriptive analysis on the research done by providing culture and leadership attributes in promoting innovation, discussion on research gaps and debate that encountered in this field, and also provides guidance for future research.

Key words: Innovation, Organizational Culture, Transformational Leadership, Competitive

Introduction

In current rapidly changed and dynamically environment, innovation is widely considered as important source for sustainable competitive advantages that demand organization

to continuously seek for advancement, in order to stay competitiveness, increase profitability and growing in market share. The term 'innovation' has a simple meaning, which is 'to make something new' (Schumpeter, 1986). Innovation also can be defined as producing something new (Barnett, 1953)

or ‘first use ever’ of a new product, service, process or idea (Pierce & Delbecq, 1976). Often, innovations differentiate the organization from a highly growth company to desolation and sometimes transformed organization from sluggish player into high performer. Of nearly 16,000 new product introduced in 1995, almost 90% was not successfully commercialized which caused by poor knowledge sharing across multiple functions in organization (Balanchandra, 1997). A number of research linking innovation towards organization performance (Tohidi & Jabbari, 2012a, Dunk, 2011, Bowen, Rostami & Steel, 2010, Atalay, Anafarta & Sarvan, 2013). However, most of previous research, discussed descriptive evidence on factors that influence innovation.

Research on success factor in deploying innovation practice in organization is very rare in nature (Martins & Terblanche, 2003). Innovation implementation closely inter-related towards culture and organization leadership style (Bharadwaj & Menon, 2000). Most of culture research on innovation dimension focus on limited scope of culture attributes, such as gender, sex, age, ability, experience etc. (William & Yang, 1999), and with center of attention on specific geography study (such as United States, Europe, Japan, Korea etc.). The purpose of this paper is to review the existing literature related to the relationship between organization culture, leadership and innovation, and to identify any research gap before provide guidance for future research.

Innovative Companies and Research and Development Spending

In September 2013, Forbes magazine released top 100 innovative companies in the world, based on the company ‘innovation premium’ measured as the difference be-

tween their market capitalization and a net present value of cash flows from existing businesses. As presented in Table 1, all companies listed in top 10 most innovative company reported double digit revenue growth, achieved significant market share in the industry that they participate and charted positive financial earnings for the past 5 years. Amazon.com, for example, reported 32% of revenue growth and 38% of net income growth for the past 5 years. Apple charted 35% of revenue growth and 61% of net income increase from 2009 to 2013, through of series of innovative Macbook Air, Ipod, Iphone, and Ipad products. Google demonstrated 35% of revenue acceleration and 37% net profit increase from internet advertisement and its search engine income.

Most of recent innovation studies link good culture, leadership, human capital management to firm performance (Dunk, 2011, Bowen et al., 2010, Atalay, et al., 2013). Traditional business school of thought suggested that organization need to allocate more resources or financial allocation, in order to ensure a steady flow of innovative product (Wesley & Levinthal, 1989). To validate this statement, we examine global Research and Development (R&D) allocation in using Booz & Company Top 20 highest R&D spending dollar in 2013. The data showed that Volkswagen spends US\$11.4B for its automotive R&D activities or 4.6% from their revenue in 2013. Samsung allocated 5.8% (USD\$10.4B) from their revenue for R&D activities mainly in communication and home appliances. Toyota allocated 3.7% of their revenue (USD\$9.8M) into extensive research on environmental friendly automotive technology. However, the increment in R&D allocation, do not necessary promise big hit innovative products that able to drive for company growth and increase profitabil-

ity. For example, Intel allocated 19% of the R&D spending \$ over revenue, however seeing a significant drop in market share since 2005 (due to softening in computer processor demand) and Intel share price charted a sharp drop from averagely \$80 in 2000 to low \$26 in December, 2013. Nokia allocated 16% of their R&D spending over revenue, but has dropped tremendously in the smart phone market share behind Apple and LG (not in top 20 R&D top spender). Sony, despite remained in top 20 R&D spending, struggling in most of their business segment including movie business (Sony picture), gaming segment (Play Station) and home appliances division. In Q3'13, the company reported USD\$0.2B net losses, and the board of management are looking into possibility for a business spin off (CNBC, Nov 2013). Booz and Company's (2003) survey further elaborated that, the top 10 highest R&D spending did not necessary report significant growth in their earning and also growth in market share.

Key factors that drive innovation is better aligned of organization innovation tactic and corporate strategies, turning culture to the best of their advantage, strong technological player to execute product design, seamless production and strong association with end market (Booz et al., 2003). Despite data and statistic about innovation status and trend from global companies, the scenario in Malaysia is also not very convincing.

Innovation in Malaysian Context

Product innovation will lead and increase organization ability to compete globally. Country with high innovation product will be able to market or participate worldwide, and will benefit significantly towards becoming net exporters country (more export versus import, thus strengthen national fi-

nancial policy i.e. currency, interest rate etc.), increase national income and improve competitiveness comparing to other country. From Global Competitive Index 2012-2013, published by World Economic Forum, Malaysia was ranked at 24 behind Singapore (2), Germany (4), US (5), Japan (9), Taiwan (12), Saudi Arabia (20) and Australia (21).

Malaysia scored highly on Infrastructure and Economy, score moderately on Institutions (accountability, ethics, rights), Education, market efficiency and labor market, but score poorly on Technology Readiness, Business Sophistication and Innovation (The Global Competitive Report, World Bank, 2012-2013). Malaysian companies are still lacking in technology, product creativity and innovativeness, process or application which can be translated into innovative product and ultimately taper its capability to commercialize idea or product that can compete globally or into world-wide market. From the numbers of international patents registered in 2012 from US Patent and Trademark Office (2013), Malaysia patent for new product registered in US Patent office, relatively low (only 219 patent in 2012), compared to other Asian countries such as Japan (52,773 new patents), South Korea (14,168 new patent) and Taiwan (11,624). Malaysia was rank 29 from total 181 country registered (US Patent and Trademark office, Dec 2012). Over 14 years of international patent registered by Asian countries (1999 – 2012), Malaysia does not demonstrate a big increase in number of new product patent registered compared to South Korea and Taiwan. Most of South Korea new innovation generated in communication and electronics devices particularly from Samsung Electronics, LG, Pantech and etc. In fact Malaysia innovation growth stagnates together with neighboring country such as Thailand, Indonesia and Philippines. One of the possible

reasons for such a low number of international pattern registered in the US pattern office by Malaysian companies, could be due to small number of innovative product that able to penetrate, commercialize and participate in global market. For Malaysian companies to remain grow, out-beat global competitor and success in international market space, it has to continuously innovate. In return, company with aggressive and capable to constantly producing innovative product, will lead to significant company performance (Tohidi & Jabbari, 2012b). Based on evidence discussed above, in summary, innovation can be considered to be one of the key factors of corporate success (Cardozo et al., 1993).

Most of the empirical research suggested that strong product innovation will lead to positive organization performance (Tohidi & Jabbari, 2012a). The ability for organization to create and encourage innovative product, commonly will lead to significant growth and increase global competitiveness (Dunk, 2010). There are many studies attempt to find out factors that lead to business innovation. Numerous behavioral research suggested that organizational culture and transformational leadership significantly influence innovation 'frame of mind' in organization, which guide to positive company performance (Samad, 2012, Jung, Wu & Chow, 2008, Jung, Chow & Wu, 2003, Gumusluoglu & Llsev, 2009, and Morales, Barionuevo & Gutierrez, 2012). A number of past research revealed that, transformational leadership provide positive link towards innovation practice and eventually help to improve performance and operational effectiveness (Gumusluoglu & Llsev, 2009; Jung et al., 2003; Jung et al., 2008; Morales, et al., 2012). Gatignon, Robertson and Fein (1997), concluded that key factors to encourage innovation in organization, can be

achieved through culture and organization orientation. Organizational culture, active communication and interaction between all functions within organization have shown significant impact towards product innovation (Ayers, Dohlstrom & Skinner, 1997).

Despite many research argued the important of culture and organization orientation that drive innovation, however, most of the research were conducted within American, Europe, Japan and Korean companies. To our knowledge, there is no in-depth study on how Malaysian organizational culture adapting towards innovation forces that influenced by global competition. It is essential for local company which consists of local talent, and leadership to adapt creative idea, implement good practices, communicate effectively, react fast and work coherently as one unit, in order to face the global pressure. To remain success and competitive, the new products introduced by Malaysian companies, require high level of commercialization potential, improved production process, globally competitive pricing, faster time to market, ability to compete across country, culture and society and finally demonstrate high aptitude to continuously innovate.

Table 1. Top 10 World Most innovative Companies

Rank	Company	5-Years Ave Sales growth (%)	5-years Ave. Net Income Growth (%)	Enterprise value (\$'bil)	Innovation Premium
1	Salesforce.com	39.5	78.7	20.7	75.1
2	Amazon.com	32.0	37.6	92.7	58.9
3	Intuitive Surgical	43.4	36.4	13.4	57.6
4	Tencent Holdings	69	75.4	46.5	52.3
5	Apple Inc	35.1	60.7	303.4	48.2
6	Hindustan Unilever	10.0	4	15.5	47.7
7	Google Inc.	35.0	37.1	138.1	44.9
8	Natura Cosmetics	17.0	13.5	10.2	44.5
9	Bharat Heavy Electricals	27.2	25.0	19.5	43.6
10	Mosanto	13.4	44.7	41.3	42.6

Literature Review

Determinants of Innovation

Knowledge sharing culture directly improved various aspects of innovative product and quality which in turn, lead to improve operational performance and positive financial result (Wang & Wang, 2012). Innovation adoption, in general, very much related to organizational aptitude in embracing knowledge management (Zack, 1999; Hana, 2013). Besides innovative culture and transformational leadership, knowledge drives human resource practice and advocate breed of innovative product (Chen & Huang, 2009). Bharadwaj and Menon (2000) argued that innovation is a factor of individual at

tempt and organization system effort to facilitate creativity. Strategic knowledge management (KM) able to extensively improved innovation adoption and significantly impact organization performance (Nicolas & Cerdan, 2011). Schien (1992) argued that effective knowledge management practice should be incorporated into the organizational culture, in order to promote innovation. Organization with strong culture adaptation towards technology, market and business changes, demonstrate 70% higher chance for survival (Copper et al., 2008). Empirical evidence from 26 US companies from various industries, using O'Brien's Organization Culture Profile (OCP), demonstrated that organization with strong knowledge culture include trust, sharing information freely,

working closely with others and developing friend at work, show strong evidence of success in knowledge management and promotes innovative behavior.

Organizations which promote innovative culture increase its ability to nurture more in-house talent by increase working knowledge and amplify workforce satisfaction (Tohidi & Jabbari, 2012b). In contrary, while most companies realized the importance of new product introduction, poor management practice and culture may hinder organization from achieving its strategic objectives (Cooper, 1994). A research with 245 Korean Small and Medium Enterprises (SME) companies, demonstrated that 85% of Korea senior management, middle management and technical staff adopt organizational learning culture as part of their day to day operation decision making process, and encourage idea and innovation in every aspect of their function to remain relevant and competitive and 2012, Korea has become the fastest growing SME in the world (Jung et al., 2003). Besides, appropriate organizational culture that promotes innovation practice, a leader who able stimulates innovation and knowledge disseminations, will ensure greater chance for improving organizational performance (Howell & Avolio, 1993).

If we look back at Apples's previous CEO (Steve Job's) leadership style, from visioning end-product expectation, he directly involved in almost every single aspect of decision making process, and to certain extend push the organization beyond existing technical know-how. Elaborately, he actively involved in deciding type of product to produce, product outlook and shape, color, setting high expectation on software, hardware, performance, specification and product quality. In addition, he also determined what type of supplier suitable for Apple and de-

mand highest product application technology, and technical quality know-how away from existing level (Isaacson, 2011). Other corporate figure like Jack Welch of General Electric's (GE) and Lou Gerstner (IBM) has been quoted as an excellent example of how leaders transformed the organization through major innovation breakthrough either from company structure, product offering, and supply chain streamlines and improve organization performance (Gardner & Avolio, 1998). A study by Jung et al. (2003) in 32 Taiwanese electronics companies, shown that leadership style with emphasis on setting future direction, empowerment and encourage knowledge sharing or being called as 'Transformational Leadership', provide positive link towards innovation culture. Transformational leadership not just has direct effect on firm performance and growth but also provide climate to support innovative culture and positive empowerment (Jung et al., 2008). The transformational leadership is visionary, possessed high charisma, inspire and provide inspiration, intellectual stimulation and consider individualized employee during decision making process (Morales, Montes & Jover, 2008). Such leaders possessed and encourage good internal and external communication network, highly trusted, enabling knowledge sharing and able to generate new knowledge and idea (Jung et al., 2008). In addition, transformational leadership influences employee learning absorption capacity (Garcis et al., 2007). This leader not just able to improve employees understanding on complex external market environment, product knowledge, insight on future trend and scenario planning, but also has ability to engage employee personality, create, share and generate knowledge, influence, guide and motivate the organization to move forward towards common strategic objectives (Jung, et al., 2008; Morales, et al., 2008).

In short, transformational leadership, have direct influence toward towards product innovation via creating appropriate value, culture, vision and setting up strategic objectives and direction for entire organization. There are many factors that contribute towards motivating product innovation in organization, such as organization structure (Adler, 1989; Allen, 1971; Nonaka & Kenney, 1991; Subramaniam & Nilakanta, 1996; Jimenez & Valle, 2011; Comlek, Kitapci, Celik & Ozsahin, 2012; Tohidi & Jabbari, 2012b), culture (Ahmed, 1998; Harmesen, Grunert, & Declerck, 2000; Skerlavaj, Song & Lee, 2010; Tohidi & Jabbari, 2012b), leadership (Gumusluoglu & Ilsev, 2009; Jung, et al., 2008; Morales, et al., 2012; Samad, 2012), talent management (Chen & Huang, 2009) and open innovation (Huizingh, 2011; Hadi & Lee, 2012; Hosain, 2012; Kocoglu, 2012; Xie, 2012).

Issues with Organizational Culture and Leadership in Influencing Innovation

There are limited number of in-depth case study research, on how organizational culture and transformational leadership drive product innovation and product development. Because of the market dynamically change and technology vigorously transformed, organization that promote constant learning and enhance themselves will gain significant benefit from organization growth stand point (Skerlavaj, et al., 2010).

There are a number of research examining how organizational culture, behavior and

practice, influenced innovation adoption and practice, shaped by specific country. For example Harryson (1997) indicted that how Japan culture promote employees openness, information sharing, job rotation, mistake sharing and collective reward after successful release innovative product, a case study in Canon and Sony. Matzler, Schwarz, Deutinger & Harms (2008), conducted a study through 300 success small and medium company (SME) in Austria, and concluded the impact of innovation and organization performance resulted from leadership style of top management. Utterback and Suarez (1993) argued that most of American companies producing assembly product and survive in dynamic market ecosystem, predominately resulted from ability to utilize employee creativity, adapt to technology changes, product development towards innovation demand, constant researches for improvement changes and fast execution. Table 2 summarized the influence of culture and leadership towards innovations. In addition, there is still lack of in-depth research that examines the real driver for product and process innovation, especially in Malaysia (Samad, 2012). This study aims to fill up the gap on how the Malaysian organizational culture and employee workforce drive innovation in a local organization. Organizational culture very much dominated by workforces or organization employees, and leadership tries to shape the organizational culture in order and eventually compete in global market.

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Innovation is becoming more crucial for the reason that new products are the nexus of competition for many organizations. Organization that have ability to quickly develop exhilarating product that end-customer are anxious to buy and explore, stand higher chance to win the business, while organization that introduce the undesired product are likely to be defeated (Brown & Eisenhardt, 1995). There are many theories attempt to understand the adoption of innovation practice in organization. Among social and behavioral theories that relevant in determine innovation dissemination in organization are Social Cognitive Theory (Bandura, 1977), the theory of reason action plan (Fishbein &

Ajzen, 1975), the theory of planned behavior (Ajzen, 1985), institutional theory (King, Gurbaxani, Kraemer, McFarlan, Raman, Yap, 1994), technology acceptance model theory (Davis, 1989) and many more. Theory of diffusion of innovation (Rogers, 1995), have attempt to explain how, why and at what rate new idea and technology spread through culture.

In his classical research for over 500 companies in United Kingdom, Rogers (1995) argued that there are 4 factors that spread the new idea which are the innovation (an idea,

Table 2. Summary of Case Study on Innovation

Dimension	Author	Country of research
Innovation through networking culture and application research	Harryson (1997)	Japan
Product innovation through relationship between leadership and organization culture	Matzler et al. (2008)	Austria
Product innovation and organization performance through cultivating ideas, process improvement and time to market.	Utterback & Suarez (1993)	America
Leadership behavior and employees positive culture enhance organization idea generation, knowledge dissemination and application behavior.	De Jong & Hartog (2007)	Dutch
Learning culture in all functions, open for constructive new product idea, and promotion of innovation practice in SME.	Jung et al. 2010	South Korea

practice or something new perceived by individual or people), communication channels (how the point being cascaded from one person to another), time (the innovation decision period), and a social system (inter-connected functions that are engaged in solving the innovation decision). All these 4 factors must work hand in hand to enable the dissemination of innovation to take place in an organization. As these 4 elements form as a new culture attributes, further discussion and research on impact of cultivating idea, faster decision making process and integrated social ecosystem seems towards business innovation seems practical and timely (Eisenhardt & Martin, 2000). Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system (Rogers & Kincaid, 1981). In addition, Rogers (1995) argued that individual experience 5 stages of accepting a new innovation which are innovation communication channels knowledge, persuasion, decision, im-

plementation, and confirmation. If an idea being adopted (first stage of the innovation process), it will spreads to diverse interested parties via various communication channels. During communication stage, it is common for the idea to rarely be listened, perceived or evaluated by people.

Conclusions

As technology move across geography, culture and country boundaries, to stay competitive and relevant in market space, organization must ensure its ability to continuously innovate. Since organization faced competition from global competitor, in order to adopt more open and approachable new idea and best practice to produce innovative products faster time to market and eventually stay competitive, both organizational culture and leadership are playing a vital role.

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SUPPLY CHAIN RISK MANAGEMENT INNOVATION PERFORMANCE

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Abstract

The global supply chain provides the food, medicine, energy, and products that support our way of life. Many different entities are responsible for or reliant upon the functioning of the global supply chain, including regulators, law enforcement, public-sector buyers, private-sector businesses, and other foreign and domestic partners; mainly because the global supply chain provides the food, medicine, energy, and products that support our way of life. To do this, the global system relies upon an interconnected web of transportation infrastructure and pathways, information technology, and cyber and energy networks. While these interdependencies promote economic activity, they also serve to propagate risk across a wide geographic area or industry that arises from a local or regional disruption. This paper aims to introduce the concept and framework of supply chain risk management (SCRM) by reviewing the literature. The review emphasises on the definition of each component within SCRM innovation performance followed by the integration of the components into one of the current models applied by the global supply chain industry.

Key Words: Supply Chain Management, Innovation in Supply Chain, Supply Chain Risk Management (SCRM), Enterprise Risk Management (ERM), Risk Analysis, Risk Self-Assessment and Risk Scorecards.

Introduction

SCRM is a new concept which is now has been accepted by the industry. In general,

most companies are increasingly dependent on their fellow supply chain members and networks. Supply chains, rather than companies, compete against each other in the industry. Risk Management awareness is si-

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multaneously increasingly necessary since the business environment is characterized by globalization and amplified efficiency requirements to emphasize on supply chain risk management (SCRM) concept in their day-to-day operations. The industries realize that the chain that provides people for the food, medicine, energy, and products, an organization can easily face multiple risks across its entire supply chain such as supplier, process, regulator and regulations, intellectual property, political and economic risks. With the global system relying on an interconnected web of transportation infrastructure and pathways, information technology, and cyber and energy networks, the organizations are beginning to realize that to succeed and mitigate the risks they face, they need to adopt a risk framework for their supply chain processes. This way, they will be able to identify key risks, the management and control, mitigation factors and the actions to minimize the impact on business performance; these can be summarized as Enterprise Risk Management (ERM) best practice; the topic that has appeared at the top of many corporate agendas globally.

The SCRM is said to be made up of at least two key components that are critical for organization's marketplace survivability and company performance within a global supply chain, i.e. supply chain and risk management. The importance of supply chain component is acknowledged as most organizations increased their dependency on their fellow supply chain members and networks that in today's scenario, more and more supply chains are observed to be competing against one other in the industry instead of the organizations. The increased awareness of risk management component on the other hand is unavoidable since the business environment today is characterized by globalization and amplified efficiency requirements.

The problem is, while many organizations have beginning to accept the concept, there are however many more of them who are still contemplating on whether they want to implement it, or other organizations who have not realized until today of its importance resulting in the SCRM to be still considered as an often overlooked risk within an organisation. It is thus important to make these organizations aware of what SCRM can offer and do to them. The main benefit being that SCRM may be the one concept that can help organization in minimizing or zeroing on the probability of an occurrence of undesirable event that causes extensive supply chain disruption. The gist of it all is for an organization to identify what are the key SCRM issues, the need for it to make a risk self assessment as well as carrying out risk analysis within and outside the organization. These will be discussed in the review of SCRM in this paper.

Literature Review

The literature often discusses the concept of Enterprise Risk Management (ERM) around the topic of financial and strategic risks. In reality, however, the total set of risks to an organization is much broader especially when covering Supply Chain Risk Management (SCRM), and also includes Hazard Risks and Operational Risks. Hazard risks refer to weather disasters, equipment shutdown, or product liability, while Operational risks include major disruptions such as theft, later supplier deliveries, IT systems shutdowns, etc. In general, the supply chain encompasses all organizations and activities associated with the flow and transformation of goods from the raw materials stage, through to the end user, as well as the associated information flows. Thus, Supply Chain Risk Management (SCRM) is the integration and management of supply chain

organizations and activities through cooperative organizational relationships, effective business processes, risk management and high levels of information sharing to create high-performing value systems that provide member organizations a sustainable competitive advantage. The literature has identified at least two key components of SCRM, i.e. supply chain and risk management. Each component has their definition issues that need to be explained before one reaches a definition for SCRM.

Functions of Supply Chain

The first component of SCRM is supply chain. In general, it refers to a system of organizations, people, activities, information, and resources involved in moving a product or service from supplier to customer. It includes purchasing, manufacturing, warehousing, transportation, customer service, demand planning, supply planning and supply chain management. In short, supply chain is made up of people, activities, information and resources that are responsible in moving a product from its supplier to customer. In other words, the supply chain encompasses the steps it takes to get a good or service from the supplier to the customer (World Economic Forum, 2012). Another definition of supply chain is “a set of three or more entities (organizations or individuals) directly involved in the upstream and downstream flows of products, services, finances, and/or information from a source to a customer” (Mentzer et al., 2001). While this definition seems to be similar to the one presented earlier, it is still criticized for the interpretation of the term chain which is argued to be simplistic and misleading. For example, Chapman et al. (2002), Christopher (2005) and Lambert et al. (1998) argue that a supply chain should be considered as something more complex than merely a

chain which is too simplistic considering the increased number of geographic distribution of companies today. With organizations operating from many geographic locations, there is no way that the supply chain can remain simple but is now increasing in complexity. In addition, the interactions amongst the chain members should now be complex as well rather than simple as previously experienced that they are now extending themselves into networks rather than chain (Chapman et al. (2002), Christopher (2005) and Lambert et al. (1998). In short, according to the critiques, the term supply chain should be implying or referring to a supply network instead of a supply chain.

The suitability of the term supply in the supply chain variable has also been questioned with many researchers suggesting new word to replace it. For instance, Christopher (2005) suggests and use the term demand chains/networks to replace supply chain, while Kemppainen and Vepsalainen (2003) added the word demand in front of the term supply and change the word chain to network; resulting in the formation of a new term i.e. demand supply networks instead. Since supply chains are not driven solely by supply factor, but also by other factors like demand and interaction made amongst chain members, it is important to note that arguments on which these researchers have brought up are valid ones, and should not be ignored when one is investigating related factors in the supply chain. However, the original term i.e. supply chain remains the more commonly used term in the literature compared to the new terms discussed, probably due to its simplicity and clarity for lay-mans understanding. Because of this, the term supply chain will be used in the remaining parts of this paper.

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Interestingly, management is also acknowledged in the literature as one integral part of supply chain hence the term Supply Chain Management (SCM) as used by some researchers. SCM for example is said to include the state of being aware of the other supply chain members, which processes are to be linked between the supply chain members, and which management techniques should be used to integrate the processes of these members (Lambert et al. (1998). Another definition by The Global Supply Chain Forum is found to be quite similar, i.e. "Supply chain management is the integration of key business processes from end user through original suppliers that provides products, services and information that add value for customers and other stakeholders (p.1)". From these definitions, one can generally describe that SCM is about how supply chain members, stakeholders and customers manage the chain.

Innovation in SCM process

The last decade has witnessed the emergence of an extensive body of literature, supported by empirical findings [Lee et al. (2000), Simchi-Levi et al. (2003), Barua et al. (2004) and Rai et al. (2006) that stress the importance of innovations for business strategy. Innovation is considered an effective enabling factor for improving specific (for a stand-alone organization) and total (for all organizations involved) SCM performance (Lam (2003), Corsten and Felde (2003)), as well as for supporting best practices method. New organizational structures, such as virtual organizations, have emerged to accommodate the growth in joint innovation activities. Therefore, various horizontal, vertical, bilateral or multilateral collaborative agreements tend to merge into an innovation driven inter-organizational supply chain network that has the potential to contribute

to the phenomenon known as "open innovation" (Chesbrough, 2006). Innovation in this respect is believed to lead to the trade-offs between operating costs and changes in unit costs in the supply chain, which are not necessarily evident at the same time. Thus, the classical model of process/product innovation has been replaced by the innovation model based on supply chain knowledge management expertise and understanding.

Risk Management Applications and Approaches

Risk management is another key component of SCRM. In the literature, most discussions on this issue are confined to financial reporting and internal controls risks; apparently because they are closely associated with Sarbanes-Oxley Act (2002) which is named after its sponsors, i.e. U.S. Senator Paul Sarbanes and U.S. Representative Michael G. Oxley (http://www.sox-online.com/sarbanes_and_oxley.html). The Act was enacted as a reaction to a number of major corporate and accounting scandals including those affecting Enron, Tyco International, Adelphia, Peregrine Systems and WorldCom which not only cost investors billions of dollars when the share prices of affected companies collapsed, but shook public confidence in the nation's securities markets too. The implementation of SOX has led to several outcomes in the industry. Examples include, one, top management must now individually certify the accuracy of financial information; two, penalties for fraudulent financial activity are much more severe; and three, SOX increased the independence of the outside auditors who review the accuracy of corporate financial statements, and increased the oversight role of boards of directors. Today, SOX-type laws have been subsequently enacted in Japan, Germany, France, Italy,

Australia, Israel, India, South Africa, and Turkey etc.

The literature on risk management has been found to mainly focus on the uncertainty factor that plays an intricate role in most business situations. According to March and Shapira (1987: p. 1404), risk is “the variation in the distribution of possible outcomes, their likelihood, and their subjective values”. Risk is often used in conjunction with the terms uncertainty and vulnerability as organizations face the possibility of being vulnerable to other supply chain members that put them into a disadvantage state. Here, vulnerability is defined as the exposure to serious disturbance arising from risks (Chapman et al., 2002), whereas uncertainty arises when something “reduces the predictability of corporate performance, that is, increases risk (p. 312)” (Miller, 1992). Another definition of risk management is - a coordinated set of activities and methods that is used to direct an organization and to control the many risks that can affect its ability to achieve objectives (<http://www.praxiom.com/iso-31000-terms.htm>). In the Introduction to ISO 31000 2009, the term risk management is defined as the architecture that is used to manage risk. This architecture includes risk management principles, a risk management framework, and a risk management process (Peck et al., 2004). Hutchins and Gould's (2004: p. 75) explanation of risk management as the essential process of responding to the existence of uncertainties (and, hence, risks) through “controlling variability from an objective, target specification or standard” similarly shows the influence of the supply chain perspective in the definition that is laden with company-specific techniques of risk management. In reviewing the risk management definitions, it is observed that they emphasize mainly on various risks,

management and technique aspects in order to address both uncertainty and vulnerability issues for organizations.

Supply Chain Risk Management (SCRM) Functional Practices

From the many functions on the SCRM key components earlier, we can safely assume that the functions of each component like supply chain, supply chain management, risk, and risk management can all be integrated into one single functional practice of SCRM. With a single integrative SCRM function, it indicates not only the importance of each SCRM components, i.e. supply chain and risk management to be woven into one SCRM practice, but it also pinpoints to the kind of strategies needed by organizations to ensure their survivability in the supply chain and marketplace. Quite a few integrative functions of SCRM have been observed in the literature. One example is the practice of SCRM as an organisation's ability to identify strategic vulnerabilities and improve supply chain resiliency; and these require direct discussions with those outside the company, such as suppliers, contractors, customers, as well as necessity at times for a cross-sector and intra-sector exchange of information and collaboration among competing companies (Dan, 2007). SCRM is also applied as the process of risk mitigation that is achieved through the collaboration, coordination, and application of risk management tools among the partners to ensure continuity coupled with long-term profitability of the supply chain (Faisal et al., 2006 & 2007). This is interesting because according to Juttner (2005), the concepts of supply chain vulnerability and its managerial counterpart supply chain risk management (SCRM) are still in their infancy. In addition, organizations must be able to realize that potential supply chain risks include de-

lays, disruptions, forecast inaccuracies, system breakdowns, intellectual property breaches, procurement failures, inventory problems, and capacity issues (Chopra and Sodhi, 2004). Thus, in modelling SCRM, researchers need to take into consideration of risks in supply chains, discusses the determinants of risk susceptibility in a supply chain, and presents the alternative strategies that are commonly employed to mitigate risk in supply chains. Although discussions found in the literature on the topic of financial and strategic risks often include SOX and the concept of Enterprise Risk Management (ERM), in reality, the total risks an organization actually face in Supply Chain Risk Management (SCRM) is much broader especially as it includes Hazard Risks (e.g. weather disasters, equipment shutdown, or product liability) and Operational Risks (e.g. major disruptions such as theft, later supplier deliveries, IT systems shutdowns, etc.). In general, the supply chain encompasses all organizations and activities associated with the flow and transformation of goods from the raw materials stage, through to the end user, as well as the associated information flows.

From previous discussions, one can summarize SCRM as the integration and management of supply chain organizations and activities through cooperative organizational relationships, effective business processes, risk management and high levels of information sharing to create high-performing value systems that provide member organizations with a sustainable competitive advantage. One thing to note from the practice is on the role of risk management in SCRM's success.

Conceptual Framework - Supply Chain Risk Management

SCRM is based on the notion that organizations are experiencing rapid supply chain expansion with decentralized supplier base. While the expanded supplier based in supply chain is meant for organizations to gain major cost advantage and market share, it also can lead to the supply chain to be more unstable due to various types of disruptions or risks (e.g. environmental risk, economic risk, etc.) the chain faces that increase the risks in organization's business operations and survivability. Thus, SCRM should be framed as the best practice or governance that can minimize any impact on organization or chain's financial strategy and profitability. Lean management, Just-in-time and outsourced supplier network are examples of such best practices or methodologies employed by many organizations that have provided major benefit in the in SCRM value chain. In developing a framework for SCRM then, any best practice must take into account the process that an organization go through in a chain. In this process, businesses act as partners or enablers in a supply chain (e.g. supplier, logistics provider, manufacturer, wholesalers, retailers) and are responsible for multiple functions (like managing materials, production process, information management, design process, financial management and demand planning and forecasting). Businesses need to prepare for multiple risks (e.g. supplier risk, process risk, regulatory risk, intellectual property risk, downstream partner behavior risk, political risk and economic risk) that may strike them at any moment which can then affect the businesses profitability and survivability. Thus, businesses need to adopt a risk framework for its supply chain processes to identify key risks, manage, mitigate and minimize the impact on business performance.

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Organizations are experiencing rapid supply chain expansion with decentralized supplier base. Although expanded supplier based in supply chain have helped organizations in gaining major cost advantage and market share but it has resulted in more unstable supply chain. Supply chains are vulnerable to various types of disruptions caused by uncertain economic cycles, consumer demands, and natural and man-made disasters. Consequence of an unstable supply chain has increased risks in conducting business operations and raises concerns on continuity of manufacturing or service delivery operations. Supply chain risk management needs to be adopted as best practice for supply chain governance to minimize impact on financial strategy and profitability. Supply chain and manufacturing methodologies such as lean, Just-in-time and outsourced supplier network have provided major benefit in the value chain but are causing serious concerns too. For an example, a high-technology manufacturer in US relies on South Korean hard disks for assembling personal computer in US. The manufacturer has realized great saving potential but has risk of disruption in operation due to political instability in neighboring countries. Similarly a leading automobile manufacturer uses Just-in-Time process model for assembling its car from its preferred vendor but runs a high risk of business loss if the vendor violates a regulatory requirement. Businesses can face multiple risks across its entire supply chain such as supplier, process, and regulatory, intellectual property, political and economic risks.

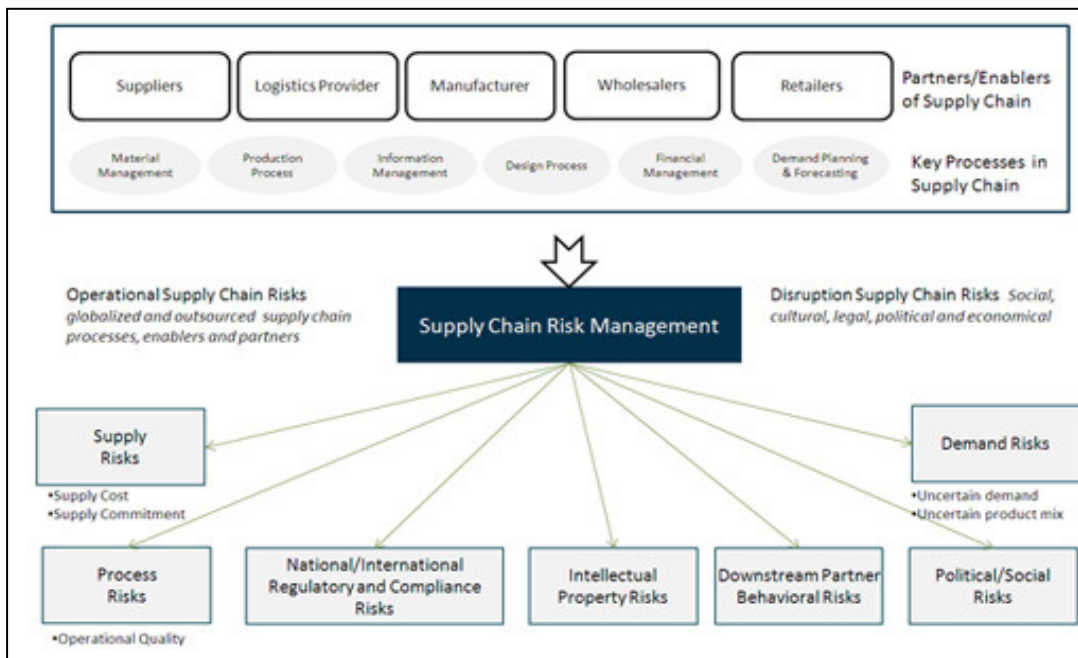
The model shown in Figure 1, seems suitable in identifying, assessing, managing and monitoring the organization's business opportunities and risks and is in line with Enterprise Risk Management (ERM) since ERM is about establishing the oversight,

control and discipline to drive continuous improvement of an entity's risk management capabilities in a changing operating environment. It advances the maturity of the enterprise's capabilities around managing its priority risks. It can be expected that successfully run companies are applying many aspects of ERM infrastructure in their everyday practice. This is because it is difficult to succeed without identifying, formally assessing, responding to, controlling and monitoring risk. Risk management practices, techniques and tools have thus been used extensively in the financial community for years. Risks with respect to a company's supply chain have begun to receive attention only more recently, as the push to increase supply chain efficiencies has illuminated the delicate balance between financial considerations and those of the customer. Trade-offs between achieving optimal supply chain efficiencies and management of supply chain risk have created a conundrum of sorts as stated by Hendricks and Singhal (2005a & 2005b).

- Organizations should adopt a risk framework for its supply chain processes to identify key risks, manage, mitigate and minimize the impact on business performance.

Some of the steps in supply chain risk management process include:

- Risk Analysis and Risk Self-Assessment - Document and evaluate risk framework for entire supply chain processes. It should include:
 - Key processes: Procurement, Manufacturing, Order fulfilment, Customer complaints and returns



Source: http://www.metricstream.com/solutions/supply_chain_risk_management.htm extracted date July 3rd 2014

Figure 1. Supply Chain Risk Management

- Risks: Supplier, Legal, Intellectual Property, Demand Chain, Regulatory Events: Automated or manual assessment of events such supplier non compliance with SLA
- KRIs (Key Risk Indicators) Control Design and Assessments - Define a set of controls to mitigate supply chain risks.
- Loss Tracking and Key Risk Indicators (KRIs): Track loss incidents and near misses, record amounts, and determine root causes and ownership. For an example supplier's failure to deliver raw material can result in market share loss and revenue loss.
- Issue Management and Remediation: Manage issues arising out of supplier

assessment, audits and loss events and enable systematic investigation plan for issue remediation and risk treatment.

- Risk Scorecards and Dashboard Reports: Get visibility into the risk analysis, key risk metrics and risk heat map to proactively identify areas in supply chain which needs attention.

Types of Risk

To assess and evaluate a nation's resilience to global risks requires defining such risks in their most appropriate organizational context (Kaplan and Mikes, 2012). Harvard Business School Professors Robert Kaplan and Annette Mikes distinguish three types of risks:

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1. Preventable Risks, such as breakdowns in processes and human error
2. Strategic Risks, which are undertaken voluntarily after weighing them against the potential rewards
3. External Risks, which are beyond one's capacity to influence or control

In the case of business, Kaplan and Mikes suggest that the first two types can be approached through traditional risk management methods, focusing mostly on organizational culture and strict compliance with regulatory, industry or institutional directives. Given the exogenous nature of external risks, cultivating resilience is the preferred approach for this last type of risk (Ibid and World Economic Forum Report Global Risks, 2013). Another way of categorizing risk is to ask two questions: How predictable is its likelihood and potential impact, and how much do we know about how to deal with it? If we can predict it and we know a lot about it, we can come up with specific strategies to anticipate the risk, mitigate its effects and minimize losses.

Conclusions

This research paper is expected to benefit the industry in understanding the need and importance of Supply Chain Risk Management (SCRM) innovation towards the supply chain performance and productivity of the industries. Innovation improvement is believed to bring about gradual change in quality whereby innovation can bring quantum improvements. The proposed model presents a framework for industries to use when determining whether their SCRM practices including information sharing, cus-

tomers relationship, strategic supplier partnership, material flow management and corporate culture have improved the organizational performance and profitability. The framework advocated above also allows industry to identify which contextual factors, namely firm size, firm age and supply chain length require attention so as to improve the level of Supply Chain Management (SCM) performance in Malaysian industries.

The actual SCRM process could involve mergers and acquisitions. Although specialization currently receives particular attention, one needs to weigh a broad versus narrow business portfolio from a risk perspective. If the choice is made to outsource, it is important to determine how much onsite supervision is required at supplier locations for risks to be managed adequately. Business organizations that implement SCRM can gain many benefits, in particular as it offers organisations with an improved focus on risk and more effective risk mitigation. Other benefits of Supply Chain Risk Management include the elimination of potential and unexpected costs, reduced disruption, and decreased recovery time. Monitoring and managing supply chain events, with an eye on potential, predictable, and even uncertain risk elements, generally evidences an improvement in overall supply chain performance. As supply chain and transport networks evolve in a dynamic environment, there is an urgent need to review risk management practices to support both long- and short-term strategic decision-making. The risk exposure of organizations must be carefully analysed against objective and transparent criteria, and costs must be weighed against the benefits of potential risk mitigation methods.

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FACTORS INFLUENCING INFORMATION TECHNOLOGY PROJECT
SUCCESS: A CASE OF UNIVERSITY INFORMATION SYSTEM
DEVELOPMENT DIVISION OF BINA NUSANTARA UNIVERSITY

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Abstract

The purpose of this study was to determine whether there is a significant effect of the quality of project manager, ability in managing project, and top management support to the success of information technology projects. Questionnaires were sent to respondents consisting of an information system development manager, senior system analyst, system analysts, senior programmers, junior programmers and associate members. Sixty nine responses were received. The results of this study indicate that all three factors had a significant influence on IT Project Success. The factor that was found to have the most influence on the success of a project is the quality of project manager, followed by ability in managing projects, and lastly top management support. The study has shown that the Information System Development divisions of Bina Nusantara University need to optimize management of project, with specific training for all project stakeholders.

Key Words: IT Project Success, Quality of Project Manager, Ability of Managing Projects, Top Management Support

Introduction

Companies make substantial investments on information technology projects because information technology is essential for companies to support the company's operations and decision making. Therefore, the risks related to information

technology projects need to be minimized. (Gunasekaran, Love, Rahimi, Miele, 2001; Dekleva, 2005). Based on a research by Zarrella, Tims, Carr, and Palk (2005) that 49% of the companies interviewed had at least one failure per year of their information technology project. Failure of infor-

mation technology projects is between 53% to 75% (Krigsman, 2007; Jones, Gray, Gold, and Mille, 2010; Nawi, Rahman and Ibrahim, 2011). Bina Nusantara (Binus) University is a private university which grew from academy of computer engineering in 1981 and become a University in 1996. Binus has commitment to continuous quality improvement and it has 8 supporting units (Academic Development, Operation and Resource Management, Student Affairs and Community Development, Collaboration and Institutional Development, Research and Institutional Development, Corporate Learning Directorate, Quality Management Center and Information Technology Directorate). University Information System Development is one of six divisions of information technology directorate, which specializes in serving the development of information systems for internal purposes of the Binus University, Binus Business School and Binus Online Learning. Some of the applications developed by University Information System Development division include: binusmaya, digital library, online study plan card, human resource information system, kiosk information, academic information system, Binus phone service, report management, e-management, and e-learning. There are 103 projects in 2012, information technology project that was cancelled in 2012 decreased by 3% from 2011. Companies need to determine the cause of failure of information technology projects in order to find solutions that can minimize the risk of failure of IT projects, moreover, according to Zarrella, Tims, Carr, and Palk (2005), by increasing the success rate of IT projects information will help to minimize the losses incurred by the company.

Problem Statement

University Information System Development is an IT division which develops information system for internal use specifically for University of Bina Nusantara. Every year more than 100 projects were established, and on average 30 projects were cancelled before completion and a lot of projects exceed the budgeted time for completion. Factors that can effect successful completion of information technology projects include: quality of project manager, ability in managing a project, and top management support. The project manager is the person responsible for the success of information technology projects. He would have the required management capabilities to monitor and manage the projects. Support from top management is critical for the successful implementation of an information technology project. The research objectives of the study are to determine whether: (i) quality of a project manager; ii) ability to manage projects and iii) top management support has a positive influence on the success of information technology projects.

Literature Review

Quality of Project Manager

The quality of a project manager affects the success of information technology projects (Whittaker, 1999; Haggerty, 2000; Sumner, Bock, Giamartino 2006; Turner and Muller, 2006, Ifinedo, 2008; Smith, Bruyns and Evans, 2011; Dezdar and Ainin, 2011). According to Schwalbe (2010), the ten most important skills and competencies for quality of project managers are: i) People skills, ii) Leadership, iii) Listening, iv) Integrity, v) Strong at building trust, vi) Verbal communication,

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vii) Strong at building teams, viii) Conflict management, ix) Problem solving and x) Balances priorities.

Ability of Managing of Projects

Ability of management of projects affect the success of information technology projects (Munns, Bjeirmi, 1996; Andersen, Birchall, Jessen, Arthur, 2006; Kappelman, McKeeman and Zhang, 2006; Fortune and White, 2006; Eve, 2007; Attarzadeh and Ow, 2008; Ding and Wang, 2008; AlAhmad, AlFagih, Khanfar, Alsamara, Abuleil, Abu-Salem, 2009; Sauser, Reilly and Shenhar, 2009; Fan, 2010; Naqvi, Aziz and UrRehman, 2011; Bakker, Boonstra, Wortmann, 2012; Sudhakar, 2012; Ramayah and Roy, 2007).

According to Schwalbe (2010), indicators for measuring a good project management, amongst others, include: i) define scope, ii) verify scope, iii) control scope, iv) define activity, v) sequence activity, vi) Estimating resource, vii) Estimating duration, viii) develop Schedule, ix) schedule control, x) estimating cost xi) Budgeting costs, xii) Control costs, xiii) quality planning, xiv) perform quality assurance, xv) perform quality control; xvi) human resource planning, xvii) acquire project team, xviii) develop project team, xix) manage project team, xx) identify stakeholder, xxi) plan communications, xxii) distribute information, xxiii) manage stakeholder, xxiv) performance reporting, xxv) plan risk management, xxvi) risk identification, xxvii) risk analysis, xxviii) risk quant-ification, xxix) risk response planning, xxx) risk control, xxxi) plan procurement, xxxii) conduct procurement, xxxiii) administrator contract, and xxxiv) close procurement.

Top Management Support

Top management support has been found to affect the success of information technology projects (Dong, 2001; Poon, and Wagner, 2001; Salmeron and Herrero, 2005; Fortune and White, 2006; Biehl, 2007; Lee and Kim, 2007; Ramayah and Roy, 2007; Zwikael, 2008; AlAhmad, AlFagih, Khanfar, Alsamara, Abuleil, Abu-Salem, 2009). According to Schwalbe (2010), the top management support is important to the success of information technology projects because they are in a position to (i) provide resources, (ii) ensure there is proper integration of projects implemented and (iii) give guidance to the project manager.

Information Technology Project Success

The study will use the same criteria as previous research to determine the success of an IT project which is as follows: the project is in accordance with the scope, time and costs determined by management, user expectation and met the goal of the project. (Atkinson, 1999; Schwalbe, 2010; Joosten, Basten and Mellis, 2011; Basten and Pankratz, 2012; Muller and Jugdev, 2012; Basten, Joosten, and Mellis, 2012).

Research Methodology

Population and Sample

Population of the study consists of 85 personnel of University Information System Development Division, which consist of 1 IS Development Manager, 4 Senior System Analyst, 7 System Analyst, 2 Senior Programmer, 6 Junior Programmer, and 65 Associate Member. The questionnaires

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were given to the IS Development Manager and he is asked to assist to distribute the questionnaires to his staff in the division as shown in Table 1. Data was collected in the month of December 2012. Sixty nine responses were received and respondents profile is shown in Table 1. Measurement of these variables was adapted from Schwalbe (2010).

A pretest was conducted on the questionnaire and they were proven valid and reliable to be used in data collection. Cronbach alphas was 0.950 for project manager, 0.975 for management of projects, 0.901 for top management, and 0.928 for information technology project as shown in Table 6.

Hypothesis

Based on previous literature, the hypothesis of this study is as follows:

H1: Quality of project manager, ability in managing project, and top management support has a significant effect on IT project success.

Discussion

Profile of Respondents

Fifty eight males (84%) and 11 females (16%) participated in the study as shown in Table 2. As shown in Table 3, majority of respondents were between 19 to 23 years old (55 respondents or 80%) followed by 24 to 28 years old (8 respondents or 12%), 29 to 33 years old (3 respondents or 4%), 34 to 38 years old (2 respondents or 3%) and more than 38 years old only 1 respondent (1%). As for working experience, Table 4 shows that majority of respondents have less than 1 year working

experience (32 respondents or 46%), 1 year until less than 2 years (28 respondents or 41%), 2 years until less than 3 years (6 respondents or 9%), 3 years until less than 4 years (1 respondent or 1%) and equal or greater than 4 years 2 respondents (3%). Table 5 shows that the respondents who participated in the study comprise of: 1 Information System Development Manager (1%), 3 Senior System Analyst (4%), 6 System Analyst (9%), 2 Senior Programmer (3%), 5 Junior Programmer (7%), and 52 Associate Members (76%).

Analysis

Descriptive Statistics.

The mean and standard deviation of quality of project manager are 3.845 and 0.735, the mean and standard deviation of ability in managing projects are 3.594 and 0.684, the mean and standard deviation of top management support are 3.623 and 0.818, the mean and standard deviation of information technology project success are 3.759 and 0.775, as shown in Table 7. Multiple regression analysis was conducted to determine the effect of the overall quality of project manager, ability in managing project and top management support to IT project success in University Information System Development division. The test results by using multiple regression analysis showed Significance of 0.000, which means the quality of project manager, ability in managing of project, and top management support jointly influence the success of information technology projects. Value of R square of 0.730 indicates that the success of information technology projects is influenced by three factors simultaneously at 73% (as shown in Figure 1) and 27% influenced by other factors such as IT governance, changing re-

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quirement by user. Summary of the effect of each variable partially or simultaneously is shown in Figure 1 attached.

The findings of the study is consistent with previous study (Muller and Turner, 2005; Andersen, Birchall, Jessen and Money, 2006; Zwikael, 2008). Most of the indicators of successful project are scope, cost, and schedule. Some of the study using quality as fourth indicators. This study added “user expectation” as fifth indicator to measure information technology project success.

Implications of Study

Ability in managing projects has smallest average (3.594) compare to top management support (3.623), and quality of project manager (3.845). From this study, all independent variable has significant effect to information technology project success. University Information System Development division need to maintain and optimize management of project (the smallest average and has medium effect) to increase this point (i.e. recruitment system evaluation, cost control for each step at milestone, prepare rational budget for each project, human resource planning to reduce higher employee turnover, identify all risk at early step, measure risk at each step, and doing activities by sequential). This division has 1 manager work more than 4 years and capable to manage staffs

and project but can still be improve. Limitations of study is that it is limited to a study of one IS Development Division. Though inevitable, as data was collected based on respondents of an IS Development Division, most of the respondents had a few years of experience and quite young. Future research could conduct a case study to understand further the problem that exists in an IS Development Division to capture more problems from planning, execution until monitoring and feedback.

Conclusions

The quality of a project manager is one of the critical success factors of information technology projects (Smith, Bruyns and Evans, 2011; Miller, Dawson, and Bradley, 2007; Alfaadel, Alawairdhi, and Al-Zyoud, 2012). Ability in managing project is one of the critical success factors of information technology projects. This is in accordance with research conducted by Haggerty, 2000; Miller, Dawson, and Bradley, 2007; Bakker, Boonstra, and Wortmann, 2012; Naqvi, Aziz, Ur-Rehman 2011; Alfaadel, Alawairdhi, and Al-Zyoud, 2012. Top management is one of the critical success factors of information technology projects (Zwikael 2008; Miller, Dawson, and Bradley, 2007).

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Table 1. Population and Sample Size of University IS Development

Position	Population	Sample
Information System Development Manager	1	1
Senior System Analyst	4	3
System Analyst	7	6
Senior Programmer	2	2
Junior Programmer	6	5
Associate Member	65	52
Total	85	69

Table 2. Distribution of Gender

Gender	No. of Respondents	Percentage
Male	58	84
Female	11	16
Total	69	100

Table 3. Distribution of Age

Age	No. of Respondents	Percentage
19-23 years	55	80
24-28 years	8	12
29-33 years	3	4
34-38 years	2	3
>38 years	1	1
Total	69	100

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Table 4. Distribution of working experience

Working experience	No. of Respondents	Percentage
Less than 1 year	32	46
1 year until less than 2 years	28	41
2 years until less than 3 years	6	9
3 years until less than 4 years	1	1
Greather or equal 4 years	2	3
Total	69	100

Table 5. Job Position of Respondents

Position	No. of Respon- dents	Percentage
ISDM (Information System Development Manager)	1	1
SSA (Senior System Analyst)	3	4
SA (System Analyst)	6	9
SP (Senior Programmer)	2	3
JP (Junior Programmer)	5	7
AM (Associate Member)	52	76
Total	69	100

Table 6. Reliability of each variable

Variables	Cronbach Alpha	R-square	Description
Quality of Project Managers	0.950	0.73	Reliable
Ability in Managing Projects	0.975		Reliable
Top Management Support	0.901		Reliable
IT Project Success	0.928		Reliable

Table 7. Descriptive Statistics

Variables	Mean	Std. Deviation	N
Quality of Project Managers	3.845	0.735	69
Ability in Managing Projects	3.594	0.684	69
Top Management Support	3.623	0.818	69
IT Project Success	3.759	0.775	69

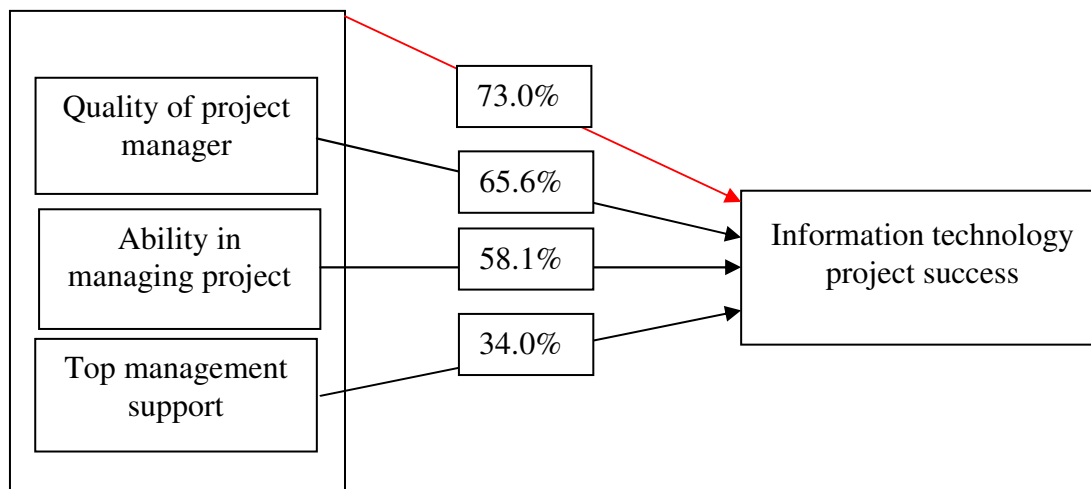


Figure 1. Factors influencing information technology project success

SYMPTOMS VERSUS PROBLEMS FRAMEWORK (SVP):
AN INNOVATIVE ROOT CAUSE ANALYSIS TOOL

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Abstract

The Symptoms versus Problems (SVP) Framework is a new innovative tool for root cause analysis which is applicable and a practical technique in identifying, analysing and solving the problems in the organization. The innovative framework has been developed as an analytical tool after being tested in many SMEs and a few MNCs over the past 10 years. It can be applied to detect weaknesses in any internal processes within sections or intra-departmental, weaknesses in SOPs, unresolved financial or non-financial issues, unproductive strategic decisions, and external barriers influenced by various stakeholders. SVP framework is proven to be much more effective and efficient compared to other conventional root cause analysis tools in solving the core causes of the problems and not just the symptoms. The definition, objective, methodology and an example of case study application is explained in this article.

Keywords: Symptom Versus Problem (SVP) Framework; Problem Solving Technique, Root Cause Analysis; Signal of Weaknesses; Employee Turnover

Disclaimer: *This case is written solely for educational purposes and is not intended to represent successful or unsuccessful managerial decision making. The author/s may have disguised names; financial and other recognizable information to protect confidentiality.*

Introduction

Every problem happens for a number of reasons. There is a definite progression of consequences that lead to a problem. Root cause analysis (RCA) is a step by step method that leads to the discovery of problems (Anderson & Fagerhaug, 2000). It is an investigation that traces the cause and effect trail from the end failure (symptom) back to the root cause (problem) (Anderson, 2001). It is much like a detective solving a crime by following through from the end failure to the actual issue.

According to Wilson et al. (1993), a root cause is the most basic reason for an undesirable condition or problem. If the real cause of the problem is not identified, then one is merely addressing the symptoms and the problems will continue to exist. For this reason, identifying and eliminating root causes of problems is of utmost importance (Dew, 1991; Sproull, 2001). Root cause analysis is the process of identifying causal factors using a structured approach with techniques designed to provide a focus for identifying and resolving problems.

There are various conventional root-cause analysis tools such as Fishbone (Ishikawa Diagram), SWOT, TOWS, PESTEL (PESTLE), Porters FIVE Forces Analysis, 5 Why's Method and etcetera. For any case studies, the Symptoms versus Problems (SVP) Framework provides better results than SWOT and Fishbone analysis; or any of all the other conventional root cause analysis tools. This paper will outline the SVP framework definition, objective, application and its advantages over the other conventional root cause analysis tools.

Symptoms Versus Problems (SVP) Framework

The Symptoms versus Problems (SVP) Framework is a new root cause analysis or problem solving tool/technique which has been internally developed by the author¹. The objective of SVP is to identify symptoms that are visible and occurring in any situation within an organization. It is a technique that question upon why every symptom occurs. Thus, continuous questioning and rationalizing the occurrence of every symptom shall lead to the ultimate problem (root cause). SVP can be used to solve any problem or failures, which occur in any internal or external areas of any organization.

What is a symptom? Whenever one sees an issue occurring like employees' burnout in a department, or missing inventories on the rise, actual product costs increasing, decrease in output performance, customer complaints on the rise, market saturation, and any other issues that relate to a performance that can be measured is deteriorating, it is a signal of weakness. These signals of weaknesses are occurring within the processes, Standard Operating Procedures (SOP), or practices or any flows of activities recognized within/or external to the organi-

¹ Noor Nasir Kader Ali is the Deputy Dean (Student Affairs & Network) at Graduate School of Business, Universiti Sains Malaysia. He has developed the framework and successfully tested it in many companies during his 10 years of service in the academic field. Prior to that he has 10 years of industrial experience and consultancy that contributes to the development of the SVP Framework. (Source: Unpublished USM MBA SSME Management Project Case, Employee Burnout in the Era of Headcount Downsizing: Case Analysis of Microchip Tech by Gayathiri Seladurai 2013).

zation. Major signal of weaknesses that affect performances (financially or non-financially) is classified as the symptom.

Why call it a symptom? When major signals of weaknesses occurs, discussions are made to understand the causes. For the purpose of this study, let's labelled the first major signal of weakness as Tier 1 symptom. The cause/(s) to Tier 1 symptom occurring is classified as Tier 2 symptom. There can be more than one causes for Tier 1 to happen. More likely, persons involved in the decision making tend to misinterpret Tier 1 or Tier 2 or Tier x symptoms as the problem. Addressing the symptoms does not resolve the problem. Thus, each occurrences or signal of weaknesses or causes to the symptoms has to be differentiated from the problem.

What is the problem? SVP is a flow chart diagram based method which identifies and displays all the possible cause/(s) using columnar diagram classified as Tier 1, Tier 2 ... Tier X symptoms leading to a specific problem. The significance of SVP is that it graphically illustrates the relationship between a given outcome and all the factors that influence the outcome. It involves considering the interrelationship between each symptom & its causes horizontally & vertically (Tier to Tier relationship). The methodology involved in SVP is horizontal relationship (between tiers), vertical relationship (within each tier or between tiers). The Tier to Tier relationships, horizontally and/or vertically structured, will clearly bring about to the ultimate end-causes (where causes that follows could not be found anymore), is called the "deadlock". This deadlock is classified as the *Problem*.

Objectives of SVP

The above explanations indicate that the *first* objective of SVP is to recognize the major signal of weakness (Tier 1 symptom) and the causes of why it occurs. For example, Figure 1 shows Tier 1 as employee turnover rate of an organization increased from 10.8% (2012) to 12.6% (2013). As the person continues in asking why a symptom occurs, it will lead to other causes/weaknesses or symptoms. Thus, the *second* objective is to understand the relationship between the tier symptoms *horizontally* in order to reach a clear *deadlock* or *problem*. Nevertheless, symptoms in each tier can be interrelated and have linkages to each other vertically and horizontally. So does the problems. Thus, the *third* objective is to recognize and understand the relationships between symptoms *vertically*. For example, there can be various symptoms happening in an organization which eventually will flow back to one major symptom (tier 1 symptom). Note however that these symptoms are scattered everywhere in the organization. So, there is no visible association among all these symptoms until an SVP is generated. With SVP, clear linkages can be observed; starting from the major Tier 1 symptom to Tier X symptoms. Understanding the relationships will help achieve the *fourth* objective is to identify the key *problems*. The *fifth* objective is to understand the *relationships or differences between the problems*. Problems in one specific section, area or department can be related to other sections and/or departments, as well as to stakeholders external to the organization. SVP helps to relate or differentiate all problems before any solutions are recommended. As such, the *sixth* objective is that the *solution/s must be clear and address* each of the *problems* to totally eliminate all the other symptoms that occur. Solutions must also have *interlinks* along the SVP path.

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SVP is much more detailed, specific, effective and easier, as well as more practical in application compared to the other conventional problem solving tools such as 5 Why's, Fishbone, SWOT, and PESTEL. SVP clearly shows the relationship of each symptom with possible root causes. SVP narrows down to the actual root cause instead of only rectifying the surface problems, called symptoms (as demarcated in Fishbone, SWOT or PESTEL). Symptoms which seem different may be caused by the same root cause. It starts with one single issue or failure, which initially appears as symptom in an organization, which is labelled as Tier 1 symptom. Tier means each in a series of rows, horizontally, or levels of a structure placed one above the other, vertically. Tier 1 symptom is what is observed visually as a major issue which affects the organization.

Methodology

The steps to construct the SVP Framework are as follows:

1. Identify *major signals of weakness* occurring and classify as the Tier 1 symptom (Refer Figure 1 as example). The major signals are clearly occurring and impacting the organization, department(s) and/or section(s) or unit(s).
2. Identify *the cause(s) to why Tier 1 symptom* is occurring and classify as Tier 2 symptom/(s). The fact(s) identified in Tier 2 are clearly linked to Tier 1. If all of Tier 2 causes are eliminated, will Tier 1 exist? If yes, the causes need to be re-evaluated.
3. Identify *the causes to Tier 2 symptom* occurring and classify as Tier 3 symptom/(s). The causes can be similar or different for each of the vertical tiers in Tier 2.

4. Recognize *the differences* and understand *the relationship* of the cause/(s) *horizontally and vertically* between Tier 1, 2 and 3 symptom/(s) based on the *facts* obtained. The better one recognize the differences and/or relationships, the easier one will be able to identify hidden causes of other tiers.

5. Identify *Tier 4 to Tier X symptoms* as the causes to prior tier occurring. These causes are likely to be extracted via interviews, responses in meetings, survey data, SOPs data or any other data that clearly linked to the prior tier causes. The causes (likely to have an indirect relationship) to the *facts* are called the *variables*.

6. Recognize the differences and understand the relationships between the elements in Tiers (5 to X), *horizontally and vertically*. The hidden causes are labelled as *elements*. The differences between tiers (4a, 5a, 6a...Xa) horizontally, must be clear and are not overlapping in nature. It shows a cause and effect relationship that linked between them. The different levels (5a, 5b, 5c, etc) ought to show different causes, are clear and significant that impacted the process, workflow, output, policies, procedures, and/or culture that are usually hidden or not discussed.

7. Identify the *deadlock problems* and the relationship between them. The signal at this point is that the causes fall back to the prior tiers. It cannot go further to identify what is next. For example, when addressing the causes of Tier 9 (problem) in Figure 2, the causes are related back to tier 8 horizontally or within Tier 9 vertically.

8. Identify the solutions to each of the problems and understand the significance and effectiveness of the solutions to the problems and eliminating the Tier 1 symptom.

tom. The solutions identified must address each of the problems and the causes of the corresponding symptoms in the horizontal and/or vertical tiers (where related).

Some terminology to know

1. *Major signal of weakness* is the measured performance about an activity or occurrence is deteriorating, declining, worsening, reducing or weakening (Example, Tier 1 in Figure 1) (Kuusi et al, 2000; Hiltunen, 2014). It is clearly visible and occurring in the organization.

2. *Facts* are the major causes to Tier 1 occurring (*major signal of weakness*). Facts are evidences found in the following tiers (Tiers 2 and 3 - refer Figure 1) as the causes why Tier 1 symptom is happening. *Facts* are visible issues investigated and clearly identified with evidences that has the cause and effect with Tier 1 symptom.

3. *Variables* are generally used to determine if changes to one issue result in changes to another (Cherry, Kendra, 2014). It can be causes of one issue effect another. In this study, *variables* are several causes reflected in the tier following the *facts* (example, Tier 4 in Figure 1). It can be one cause or several causes causing the tier before it to occur. In this study, Tier 3 is caused by Tier 4 variables. These variables in Tier 4 may be visible or hidden, or causing indirect effect. It needs to be investigated before the causes are revealed.

4. *Elements* are causes that contribute to a result. It can be several causes to the effect (Thefreedictionary.com, 2014) In this study, *elements* are direct or indirect causes to the Variables occurring (Tier 4). *Elements* are usually hidden/unseen. Example, *elements* in Tier 5 to 8 (refer Figure 2).

5. *Deadlocks* are the *problems* that have been identified (example, Tier 9 Problem in figure 2). When problem solving, identify the causes of the problem is essential in order to solve it (Studygs.net, 2014). A **deadlock** is a situation in which two or more competing actions, where each waiting for the other to finish, and thus neither ever does, leading to the identified problem. (Reliableplant.com, 2014; Answers.com, 2104). The causes falls back on prior tiers horizontally or within the last tier vertically since new causes can no longer be found.

6. *Solutions* are recommendations to the deadlocks or problems (Foote et al., 2001). The signal is that solutions implemented should eliminate the problems and the related symptoms.

Application of SVP Framework

An example of case study is illustrated to better understand the SVP Framework. For instance, unfavourable employee turnover rate in 2013 in MEDICINS Sdn. Bhd.² is the Tier 1 symptom (*Refer to Figure 1*). Tier 1 symptom is measurable and quantifiable indicating a *major signal of weakness* in employee turnover performance (employee turnover increase by 1.76% from 10.88% in 2012 to 12.64% in 2013)³. Tier 2, 3 and 4 are the subsequent issues and symptoms related to Tier 1. For example, tier 1 symptom is happening caused by Tier 2 symptoms. Tier 2 symptoms are high absenteeism rate, high abscondment rate and high resignation rate (measureable *Facts*). This means *high absenteeism rate, high abscondment rate*

² The name of the organization is disguised to protect its confidentiality.

³ The percentages are extracted from the unpublished data of the organization.

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and *high resignation rate* causes an increase in overall employee turnover. *High absenteeism* refers to being absent from work without informing his/her superiors following a medical leave (MC). The absenteeism is usually permanent. Absenteeism and medical leaves are the early warnings and signals of lack of job satisfaction which leads to abscondment impacting employee turnover rate. *Abscondment* occurs when an employee does not turn up to work 2 days or more, consecutively, without any valid reason causing a breach of contract between the employee and the employer. *Resignation* occurs when an employee submits an official resignation letter or verbally informed to the management with the intention to leave the company.

Relationship between Tier 1 symptom and Tier 2 symptom is called the horizontal relationship. Tier 2 symptoms are happening due to tier 3 symptom. This means high absenteeism rate, the high abscondment rate and the high resignation rate is happening due to the increase in job dissatisfaction among MEDICINS employees. This is also called the *horizontal relationship*.

Tier 3 symptom; job dissatisfaction is contributed by 6 major symptoms under Tier 4 (*vertical relationship*). Tier 4 is also known as the *Variables*- the causes to the *Facts* (tier 4a, 4b, 4c, 4d, 4e and 4f). In this case study example, Tier 4 *Variables* are 4a – ‘Lack of Employee Relationship Management (ERM)’ (Mohammad and Wilson, 2014), 4b – ‘Lack of interest in the job’, 4c – ‘Lack of work life balance’, 4d – ‘Communication gap between management and employee’, 4e – ‘No supervision, coaching and feedback’ and 4f – ‘Workload is very high’.

Tier 4a, *Lack of ERM* happens due to one main direct cause (*an element*) which is ‘ca-

reer growth opportunities only provided to high performers’ (tier 4a direct cause is tier 5a) together with four vertical “*elements*”, namely, ‘*lack of appreciation, recognition and motivation*’ (tier 4a direct cause is Tier 5b), ‘*managers/supervisors use legitimate power and leadership*’ (tier 4a direct cause is tier 5c), ‘*lack of empowerment*’ (tier 4a direct cause is tier 5d), and ‘*role ambiguity*’ (tier 4a direct cause is tier 5e). These elements are usually hidden or unseen (*Refer to Figure 2*). Why? These elements or causes impacted prior tiers indirectly, but with significant impact. Opportunities provided to certain group has significant negative impact to other groups who does not receive the benefits. Employees reacted silently and negatively. Variation in leadership roles negatively, invite negative reactions from employees silently. Behavioural reaction is undetected until it has widespread within the organization.

In this case, Tier 4a, 5a, 6a, 7a, 8a, 9a have horizontal relationships. Tiers 5b, 5c, 5d and 5e (*the elements*) have vertical relationships causing Tier 4a *variable* to occur. Also, Tiers 5b, 5c, 5d and 5e are caused by Tier 6b, namely, *the autocratic leadership*. The analysis on horizontal and vertical elements help to understand better the true significant causes about their differences and relationships between these *elements*, as in the case of MEDICINS Sdn. Bhd. Thus, would lead to identification of the deadlock problems.

Elements explain why *variables* are happening, *variables* explain why *facts* are occurring. *Elements* can be determine in many tiers depending on issues and symptoms that occur. Tier 6b element, *autocratic leadership* happens due to Tier 7b element, *organizational culture issue on leadership* (horizontal relationship). Tier 7b occurs due to Tier 8b, namely, *lack of ‘transactional,*

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transformational, charismatic and spiritual leadership styles of management', a horizontal relationship. This happens due to Tier 9b, namely, *lack of strategic plans* to develop leaders and this becomes the final tier *problem or deadlock*. Tier 7b is also caused by Tier 8c, *'lack of Training Manager'*. Tier 8c is caused by Tier 9c, *'manpower planning does not consider training managers as crucial (a weakness in TNA Analysis)*.

The solution to this problem is to fix, enhance or eliminate this issues. For example, review of policies on employees' performance evaluation and career growth for all ratings, strategic plans for leadership development of supervisors and managers, collaboration with universities to evaluate the impact of the leadership trainings and recruiting the right training managers are crucial solutions to overcome the symptoms and problems for tier 4a. The same concept applies to the following *variables* (Tier 4b, 4c, 4d, 4e and 4f) where those tiers are exploded, analysed and expended deep into several tiers until the *deadlock* or the actual root cause of the *problem(s)* are identified.

In this case study example, the relationship between the *elements* of different *variables* were also observed. Tier 1 symptom can be drilled down up to tier 9, 10, 11, 12 and 13, or even infinity until the root of the problem is identified. A problem identified today (any of the Tier 9) can be a symptom tomorrow and this becomes continuous improvement for the supervisors, management team and researchers. Sometimes, a few symptoms can appear to be different (Tiers 5b, 5c, 5d and 5e), but finally they can lead to the same root cause (Tier 6b). Other times, few symptoms can be interrelated and interlinked to each other not only vertically, but also horizontally (Tiers 4a, 5, 6, 7, 8 and 9). Thus, ability to identify the major significant

elements that differentiate between tiers horizontally and levels vertically, are crucial in building a good SVP framework. By tackling the actual root cause (Tier 9), the real problems are addressed. However, if only the symptoms are addressed at first few tiers, the problems have a high chance of recurrence, as organizations are fire-fighting in eliminating the early symptoms at the surface level, as presented in SWOT, TOWS, PESTEL and Ishikawa Fishbone diagram. The theories and concepts behind SVP framework is explained in pictorial form in Figure 1 and Figure 2.

Conclusion

At the outset, the SVP framework is an innovative technique of analysis which can be applied in any case studies to any part within the organization and/or external to the organization. It is a root cause analysis tool which can be used to explore in depth as compared to the traditional and conventional tools available. This new root cause analysis is practical, reliable, and extensive that explodes an issue until the explosion reach its *deadlock*. The final tier indicates the core issue, root cause or the *deadlock problems* faced. By taking appropriate corrective action to address the problems, the solution can eliminate all symptoms related to the problems, as well as, the main signal of weakness, or Tier 1 symptom. The significance and effectiveness of the solutions are indicated by the effects of eliminating the elements, variables and facts that are causing the existence of Tier 1 symptom. It is strongly recommended that organizations consider the application of the SVP framework⁴ in solving its operational related is-

⁴ The authors are available to provide special in-house training to organizations requesting for SVP Framework Development Training.

sues⁵ as SVP provides a holistic approach in understanding the root of the problem and helps to target the most appropriate solution to eliminate the problem in totality and avoiding any recurrence. Qualitative, quantitative and applied research should also consider applying the SVP framework as a tool to identify the appropriate independent variables to be tested in its relationship with the dependent variables.

⁵ Unpublished cases of companies using SVP Framework are available. Request for the cases are subjected to approval by related companies.

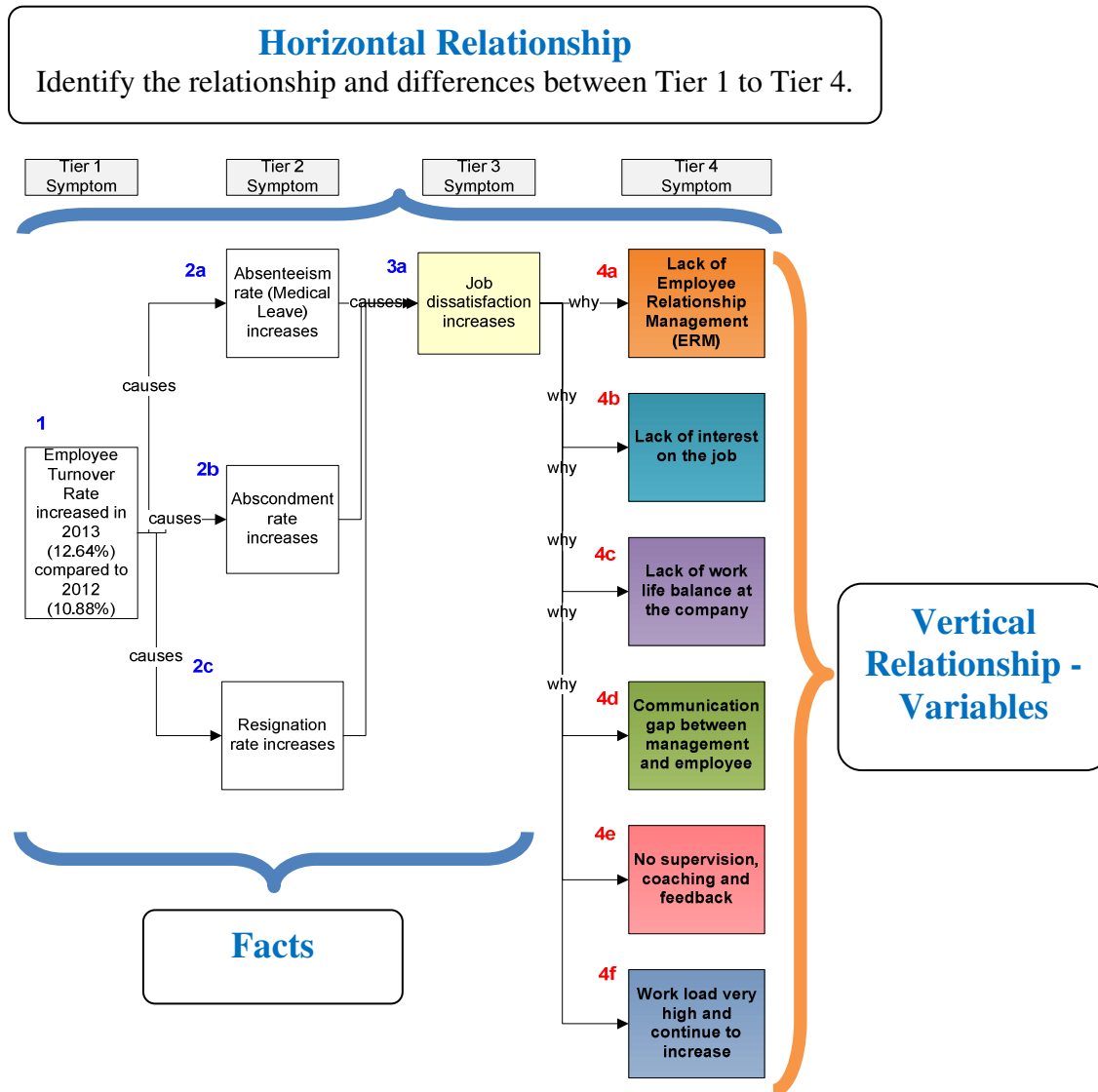


Figure 1: SVP Framework - unfavourable employee turnover rate in 2013 for MEDICINS Sdn. Bhd. (Tier 1 symptom to Tier 4 symptom)

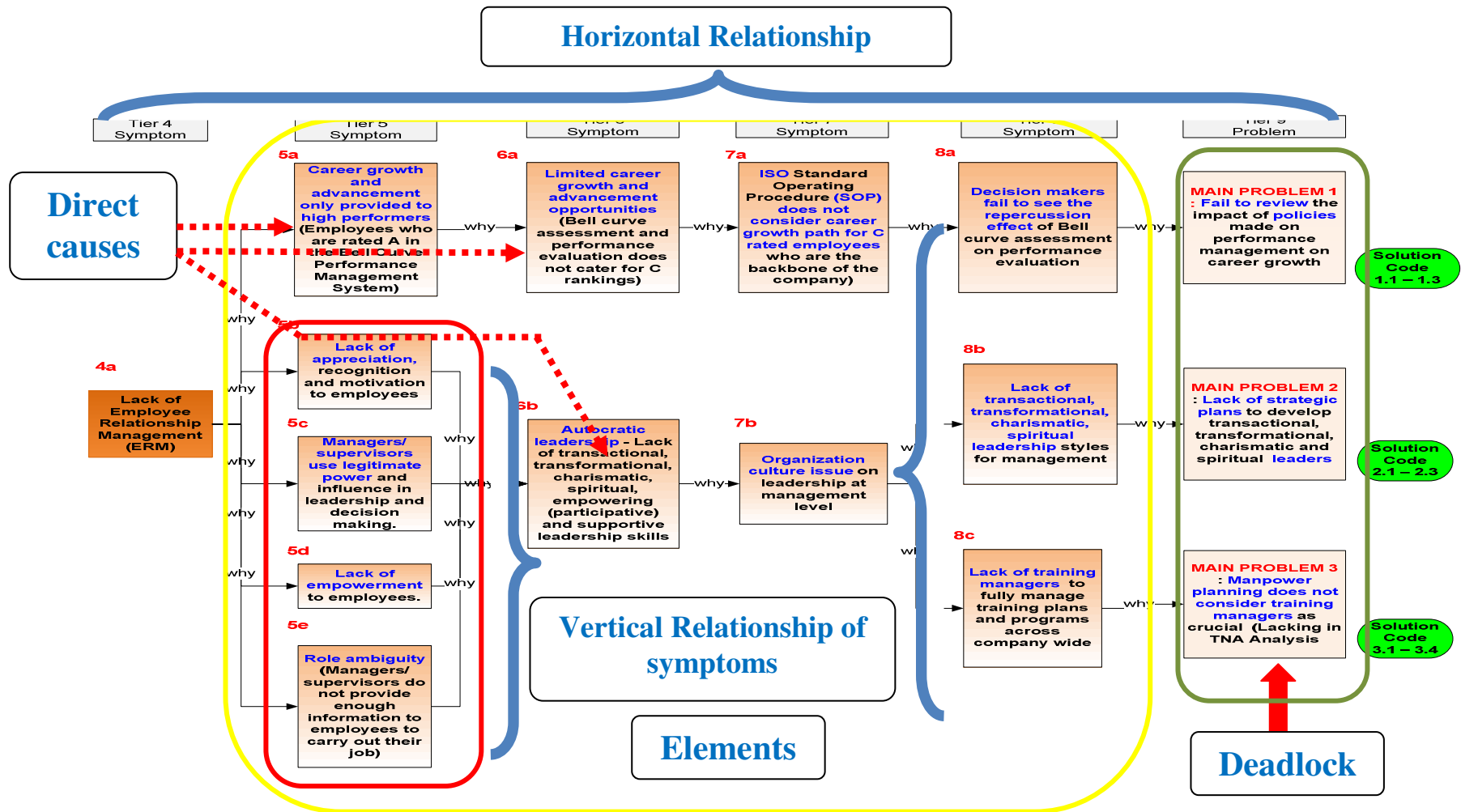


Figure 2: SVP Framework that explodes Tier 4a symptom from Figure 1 – “Lack of Employee Relationship Management (ERM)” to Tier 9 problem. There are 3 solutions recommended for Problem 1 and 2 while Problem 3 has 4 solutions. These solutions are resolving Tier 4a symptom. The solutions can be provided upon request.

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THE DETERMINANTS OF PERCEIVED SERVICE QUALITY ON
CUSTOMER LOYALTY IN POST OFFICE: MEDIATING ROLE
OF SERVICE INNOVATION

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Abstract

There is a radical and drastic changes in the information communication technology (ICT) in horizontal and vertical dimensions throughout the world and most of the services offered by post offices become redundant. The information exchange has been made simpler, faster and easier with the introduction of advanced and sophisticated technology. In this scenario, people seldom use post office services as the product and services of the post offices function in the old business model and in the traditional ways. Of late, people would like to use latest technology, innovative services and products in a day-to-day routine life. The introduction of latest technologies like Facebook and Twitter makes a huge revenue loss to the post office services. The present research article aims to study the relationship between the perceived service quality characteristics of post offices on the customer loyalty. Further, the importance of service innovation to strengthen the relationship between perceived service quality and customer loyalty from the post office user's points of view is also studied.

Key Words: Perceived Service Quality, Service Innovation, Customer Loyalty, Post Office

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Introduction

Interestingly, “Chaparkhaneh” (a place for changing the horse and replacing it with a ready horse for messenger in ancient Iran to hasten the deliverance of the message) was initiated by the first Iranian “Achaemenid” (First Persian Empire) as a postal system in the world which was incredible and adorable. The father of history, Herodotus writes in this regard: “It takes a number of days of travel, horses and men standing along the route, each horse and man scouring the course of a day and nothing stop them, no snow, no rain, no heat and no darkness to carry out its mission (to deliver letters) with all speed”. Crew and Kleindorfer (1991) commented on the thoughtful analysis of the British Post Office resulted in the establishment of the first inexpensive, universal system for communications available to all members of the society. Teece (2010) commented that developments in the global economy are critical to the traditional balance between customer and supplier. Therefore, the businesses need to be more customer-centric, especially since technology has evolved to allow the lower cost provision for information and customer solutions. Fuller-Love and Cooper (2000) pointed out that a planned strategy would have had several advantages over the emergent strategies that the post office adopted for IT. A planned strategy for the post office counters in particular would have incorporated in meeting the needs of the customer rather than the Benefits Agency. The decision by the Benefits Agency to pay benefits directly into the bank accounts will now have serious repercussions for the post office. The fact that the post office was unable to invest in

new technology since the private couriers have overtaken. With mobile phones as a necessity and the order of the day to all people, information could be sent faster to inform news than postal services. Some of the post office products and services are outdated currently. For example, collecting domestic utility bills like Television cable charges, Electricity bills, Water bills and so on can be done through banks ATMs. In fact, we can do these jobs 24 hours in the online system, whereas post office services are available only for 8 hours during working days. Hence, there is a need to have a post office business model to study the perceived service quality and service innovation on customer loyalty in the post office from the user’s points of views. The new business model should emphasis on how the services rendered by the post office may be executed at a faster phase in some mode of technology and available at a lesser cost. Hence, it is an imperative at this juncture to identify what are the service quality innovations post office can offer in order to sustain its product and services in the market over the long run. However, at present, many post office products and services in developing countries are not that flexible, not that user friendly, too much of manual operations, waste of stationery, less trustworthy and more risk involved in the delivery of operations. The current paper aims to focus on the perceived service quality and service innovation, automation which may be introduced in post office like ATMs, fixed deposit options, loan facilities, single window facility, extended post office hours, ambience, competition, and problems faced by the users among others.

Background of the Study

Service automation in post office has many components. Most of the service sector companies in developing country realized the importance of automation and integration. At the outset, the current research is offering the probable solutions and recommendations to post office in terms of integrating and introducing new products and services to meet the customers' demand. It is of interest to know the existence of certain types of products and services in the post office that contributes to the automation success. Thus, it is important to know the dimensions of the perceived service quality, which are directly applicable to the post office. Although, it is known that the profit and social components are in the reverse order, it is not clear on how these two elements affect post office services. The present article also looks at the relationship between the service qualities on customer loyalty. Investigation of these issues is important, as different levels of adoption and adaption should be taken into account in developing management strategies that work best in the post offices. In summary, the appropriate new business model fostering innovation for post office to be more effective and efficient and the current major concerns are listed below:

- With the introduction of internet, post office utility has declined considerably due to online payment facilities provided by most of the financial institutions. The concern however is to find the trust that people have on the post office service connected to habits, traditional values and conservative.
- With the introduction of information technology sophistication, information exchange is made easier and simpler and thus post office users have reduced. An online bill payment facility

is provided by most of the financial and banking institutions.

- Unless or otherwise post office changes the style of functioning it is difficult to survive in the competitive market. The faster and aggressive sophistication into the online market may ensure efficient ICT infrastructure in place.
- To nurture new customers for post office and to retain the existing customers, they should multiply their operational areas of functioning.
- Most of the Post offices in developing and under-developed countries are not automated fully and leads to ineffective in business transactions.

The post office is now faced with the situation that its competitors have moved ahead, particularly in providing better services to the customers (*GAP 1*). One of the problems of organizations such as the one post office, entering joint ventures to develop new systems is that they are failing to focus on the core business. Thus, the present study is undertaken to investigate the service quality characteristics of post office to its customers (users). The present study attempts to explore the technology-based service scenario, but with different interfaces and technologies that is suitable for post office products and services Theotokis et al. (2008). Prahalad and Hamel (1990) observed that a company's competitiveness derives the performance of its current products and services not only based on the development of the IT strategies but also depends on the human facets, tangible and intangible aspects. Hence, the present study focuses on the four dimensions of perceived service quality, namely employee competence, information technology sophistication, working environment and corporate social responsibility in the Malaysian context as reported by

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Lenka et al. (2009). In addition, a few little researches focus in Malaysia on the understanding of the determinants of service innovation and customer loyalty in the post office environment. Ltifi and Ghardi (2012) suggested that future research is essential to study the products and services of post office in general and described the monopoly position of Tunisian market for postal services. Further, the importance of service quality and commercial success of the Tunisian post were also studied. Ltifi and Ghardi (2012) pointed out that research must be undertaken on services of post office such as postal distribution centers, service agencies and parcel post services agencies, quick post, the impact of information technology and communication and especially the Internet on the quality of postal services (*GAP 2*). To fulfill Gap 2, the present study attempts to identify exhaustively the model variables that are connected to the perceived service quality which influence on the service innovation and consequently the customer loyalty. Capgemini's 2010 Postal Innovation study recommended that postal innovations need to be managed more tightly and with an end-to-end perspective if they are to be successful (Heitzler, 2010). Sund (2008) investigated the innovation in the postal sector through the strategies, barriers and enablers. The long internal decision-making processes, government regulations and difficult to attract skilled and innovative workers are the major barriers of service innovation in post office (*GAP 3*). Hertog (2000) has suggested that service innovation is rarely limited to a change in the characteristics of the service product itself. Innovation often coincides with new patterns of product distribution, client interaction and service assurance. Hence, the present study identifies the required service innovation in terms of product and services. For example, the post office can introduce some of the

existing products and services of the banking sector, stamps collection, and seasonal invitation cards on festivals, celebrity greeting card, and loyalty card to attract more customers. Beersma and De Dreu (2005) identified that many different social motives are applicable in service organizations which includes cooperation, altruism, individualism, and competition among others. Although, some of these characteristics are observed in post office it is difficult to measure the extent of social responsibility in which the post office operates (*GAP 4*). Further, there is no benchmark for profit as profit helps the organization to expand horizontally and vertically (*GAP 5*). Hence, in the present study, a thorough investigation has been carried out to study post office business model in terms of perceived service quality as well as service and profit motives of post office in general.

Literature Review

Perceived Service Quality

The literature review examines the theories regarding the constructs of the research that involves mainly on perceived service quality (independent variables) which effect on the service innovation as mediating variable on customer loyalty (dependent variable) in post office set up. Many studies have focused on the conceptualization of quality. The researchers initially focused on the difference between objective quality (that's based on the product and production) and perceived quality (based on the user) Garvin (1996). Researchers generally assume that service quality is a subjective assessment of the consumer, deals with the process and outcome of the service offerings. According to Grönroos (1984), the service quality is the result of the comparison between the expected service and perceived service. Cronin

Jr and Taylor (1992) opinions affirm that service quality is an attitude of the consumer that is an overall assessment. Ayala et al. (1996) defined quality of service in its ability to meet consumer needs and the technical impeccability of the service. Zeithaml (1988) stated that quality as assessed by the consumer of excellence or superiority over all service. In addition, Parasuraman et al. (1985) noted that consumers often tend to rely on extreme experiential attributes in evaluating the quality of service. Grönroos (1990) remarked that the quality of service has both technical and functional qualities. To improve the quality of service to be strengthened by the development of the integrated computer applications network, post office must ensure the implementation of service in an instant way to profit citizens Ltifi and Ghardi (2012). Tangible cues in the physical environment of a service firm influence behavior of customers and their future purchase decisions Burgers et al. (2000). The tangible elements include exterior facility of the firm like parking, interior decorations, furniture and the equipments used. Therefore, the physical environment can have an influence on customer perception of service quality Parasuraman et al. (1988). Zeithaml and Bitner (2003) remarked that the perceived service quality as a global judgment or attitude relating to the superiority of a service. It is widely accepted today that service quality is a multi-dimensional concept. The importance of measuring service quality evaluations has been well justified in the literature. Studies have shown that service quality evaluations are closely related to positive behavioral intentions and customer loyalty (Backman & Veldkamp, 1995; Baker & Crompton, 2000; Bloemer & De Ruyter, 1998). Teece (2010) commented that a provisional business dynamic post office model must be evaluated against the current state of the post office

service, and against how it might evolve in future. Moreover, the post office service does not have a formal innovation process or a comprehensive innovation strategy; it has to introduce innovations such as flexible timing, more services, new technology and speed delivery. The perceived service quality is derived from customers' cognitive evaluations of a service Chiou (2004). It can be viewed as a transaction-specific level or a global level (Oliver, 1993); Parasuraman et al. (1994). Global quality is an overall perception of a firm's service quality based on customers' cumulative transaction-specific experiences Oliver Richard (1997). Transaction-specific quality is customers' evaluations of various aspects of a service during a service encounter. It can provide specific diagnostic information about the service encounter. In the present study, we focus on transaction-specific service quality.

Employee Competence (EC)

Competencies often serve as the basis for skill standards that specify the level of knowledge, skills, and abilities required for success in the workplace, as well as potential measurement criteria for assessing competency attainment. Raven and Stephenson (2001) stated that potential job candidates and employees must consider the competencies required for a position of interest and develop the desired knowledge, skills, abilities, and other characteristics. In addition, individuals must demonstrate general competence in post office in the following four areas:

- *Meaning competence* – understanding the working culture of the post office and acting in accordance.
- *Relation competence* – creating and maintaining connections with post office users.

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- *Learning competence* – identifying user's needs and providing solutions.
- *Change competence* – acting in creative ways when the task in post office calls for.

Competence requires the sufficient knowledge, skills, or attitudes that make an employee to perform his or her job. For example, when used in recruitment and selection, knowing the competency profile of your employees can assure you that you are hiring people who you know cannot only do the job, but will excel in it. Guthrie and Petty (2000) opinioned that this refers to the individual's education, skills, training, values, experiences, and so forth. However, employee competence requires the capacity to create both tangible and intangible assets in a wide variety of situations. Vathanophas (2006) stated that human assets are one of the most important resources available to any organizations and employee competence and commitment largely determine the objectives that an organization can set for itself and to its success in achieving them. Abidin and Ismail (2010) suggested that Malaysia needs to address the challenges of globalization to become a developed nation by the year 2020. Thus, to achieve this motive, post offices should be automated and centralized within the country. Although the employees' competence is visible in post offices, the technological aspects are not up to the standards.

Information Technology Sophistication (ITS)

The ITS industry has developed very swiftly over the past two decades with the pervasive adoption of the internet, cell phones and digital computers. Sadorsky (2012) mentioned that with a rapid technological devel-

opment, the role of ITS in economic growth has attracted significant attention. Based on aggregate data, early evidences suggested that information technology; particularly computers have an effect on growth or productivity Gordon (2000) stated that today Information Technology Sophistication serves as an excellent prospect of technology and plays a vital efficiency of the service sector (like the post office) through cost reduction, product promotion, cheaper distribution channels, direct savings, reduction in supply time, good customer services, production innovation, entering new markets. However, implementation and developments of such a new technology post office require huge amount of financial investments. Hence, without the help of the government, it is difficult to achieve this task.

Working Environment (WE)

According to Daraiseh et al. (2003), the working conditions consist of a web of physical, mental, social, organizational, and technological factors that interact in a complex way leading to individual human effects as well as an interactive chain of work effects. For example, the post office users are declining day by day, and the working conditions in post offices result in dissatisfaction to the customers. Hence, proper attention must be paid on this important factor.

Corporate Social Responsibility (CSR)

Globally, post office serves to a noble cause and it has its own social responsibilities. Corporate Social Responsibility (CSR) becomes an important strategic policy in the service sector, particularly in post office despite increasing pressures for its incorporation into business practices. Andreini et al.

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(2014) suggested that the relationship between CSR and performance have been widely investigated in profit motives. Isa (2011) mentioned that CSR becomes an important strategic policy for organizations despite increasing pressures for its incorporation into business practices. Quazi and O'Brien (2000) remarked that most models of CSR revolve around the controversy as to whether a business is a single dimensional entity of profit maximization or a multi-dimensional entity serving greater societal interests. However, both social and profit motives are to be included in post office services for long term sustainability.

Service Innovation (SI)

Hertog (2000) suggested that service innovation is rarely limited to a change in the characteristics of the service product itself. Offering a completely new service may differ considerably from offering an existing service using a new distribution channel. In practice, most innovations appear to be a mixture of major and minor changes and adaptations of existing service. Service innovation traditionally emphasized the development of new service offerings and concepts (Michel et al., 2008; Rubalcaba et al., 2012). Kindström and Kowalkowski (2014) stated that the unique integration of the resources and capabilities is the essence of overall service innovation. Pedersen and Nysveen (2010) commended that business model innovations are one of the service innovation types. Skålén et al. (2014) stated that service innovation can be equated with the creation of new value propositions by means of developing existing or creating new practices and/or resources. There are four types of service innovation, namely adaptation, resource-based innovation, practice-based innovation, and combinative innovation whereas three types of service innovation processes namely practice-based, resource-based, and combinative. In post office, service innovation processes are normally observed than service innovation.

Pedersen and Nysveen (2010) cited one of the service innovation typology most referred to is the one presented by Hertog (2000). They categorize service innovations into 1) service concepts, 2) client interface, 3) service delivery systems, and 4) technology. All these innovations are the need of the hour for post office. In addition, Michel, Brown, and Gallan (2008) suggested that service innovation should be viewed as a change in the role of the customer and the value-creation processes. An innovation is often manifested as a change in the competences of the service sector, the competences of the customer, the prerequisites of the offerings, or what the customer co-creators. Rubalcaba et al. (2012) have suggested that service innovation is a rich, complex, dynamic field, in which new approaches and contributions are constantly emerging. Thus, the post office users and non-users feedback is essential to assess the existing service innovations in post office context.

Customer Loyalty in Post Office

The immediate competitors for post office are Internet, global information providers like Google, Yahoo, Facebook, Twitter and private courier services. If the post office users switch over to any of the above stated sources then they are not loyal to post office. Of course, those who are using off and on the services of post office may still have faith in post office and are loyal. Thus a customer who is not at all using post office services and has no trust in post office is termed as not loyal to post office. According to Oliver Richard (1997), loyalty is described as:

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"A deeply held commitment to re-buy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior".

Lenka et al. (2009) suggested that the cost of attracting new customers is more than the cost of retaining old customers. Loyal customers have an emotional attachment with products /services, and they cannot be attracted by any other brand that offers even a better deal. Oliver (1999) further proposes that loyalty is developed in four phases namely cognitive, affective, conative and action. The brand attributes information available to the customer indicates that one brand is preferable to its alternatives. This stage is referred to as cognitive loyalty, or loyalty based on brand belief only. Cognition can be based on prior or vicarious knowledge or on recent experience based information. A liking or attitude towards the brand has developed based on cumulatively satisfying usage occasions. This reflects the pleasure dimension of the satisfaction and it may affect or effect the continuation. The next phase of the loyalty development is the conative (behavioral intention) stage, as influenced by repeated episodes of positive affect towards the brand. Ltifi and Ghardi (2012) stated the meaning of action loyalty as true through action.

Conceptual Research Framework

Based on the explanations described in Sections 3.1.1-3.1.6, the conceptual framework has been developed and illustrated in Figure 1. The framework is constructed with perceived service quality constructs namely Employee Competence, Information Tech-

nology Sophistication, Working Environment, Corporate Social Responsibility as Independent variables, Customer Loyalty as a dependent variable and Service Innovation as a mediating variable. This framework may be used to study the direct effects of the relationships between perceived service quality characteristics on Customer Loyalty in the post office. Further, it determines the indirect effect of Service Innovation between service quality characteristics and Customer Loyalty. The unit of analysis for this study is the individual customer (post office user) and the conceptual framework will be customized for any developing country and tested for its consistency and validity. The conceptual framework consists of four independent variables. The hypotheses postulated below answer the research questions connected with the conceptual framework of the study. The conceptual model consisting of 13 hypotheses and are stated below:

H₁ (a-d): The Perceived Service quality will have a positive effect on post office customer loyalty

H₂ (a-d): The perceived Service quality will have a positive effect on service innovation

H₃ : Service innovation will have a positive effect on post office customer loyalty

H₄ (a-d): Service innovation mediates the relationship between the perceived service quality and post office customer loyalty

Discussions and Conclusions

Recently, competition exists in post offices because of the invasion of private courier services, both by indigenous and foreign agencies. Moreover, the post office has to deal with profit and social motives in their products and services offered. Nevertheless, the automation process application is ob-

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served as a profit motive than social motive. However, to be one of the global players, post offices need to balance between social responsibility and profit making. Post office is a service oriented organization and has lots of social responsibility towards public service. Because of the latest technological development especially digiservices, post office services are drastically affected. For instance; post office telegrams are replaced by either emails or Short Message Service (SMS); postal letters are replaced by either SMS or emails; postal parcels are partially replaced by private courier service. It is imperative at this juncture, to identify the essential and effective service quality and service innovation that post office can offer in order to sustain its products and services in the market for a long run. Some of the important salient features of post office discussed in the present study are: social responsibility; Service quality in terms of op-

erations; cost effectiveness in terms of ITS implementation; Service orientation; minimize inconvenience like waiting time, long queue length; good publicity and advertisements; government policies on post office services; habit of stamps collection or stamps exhibits; giving importance to savings; due importance to post office insurance without joint collaboration.

To conclude, many post office products and services are less sufficient in flexibility, inadequate in user friendly and replicate the same manual operations. Therefore, the study of this kind is timely and worthwhile to carry out. The conceptual research framework illustrated in Figure 1 may resolve a number of the existing issues in post offices, and the framework may be customized and applicable to other developing countries as well.

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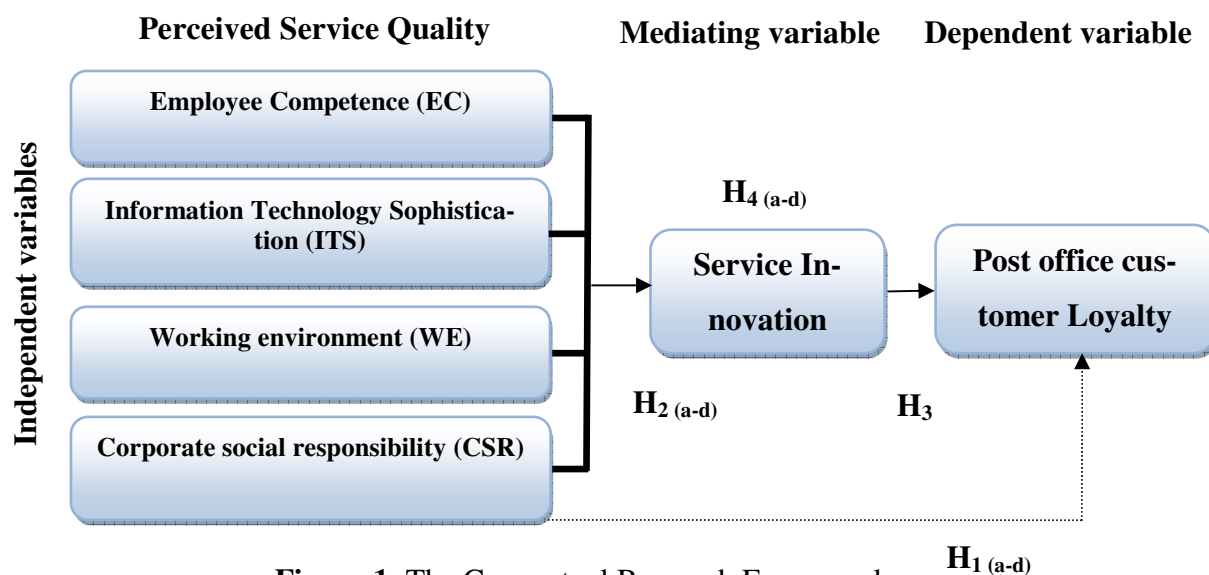


Figure 1. The Conceptual Research Framework

**INCULCATING ETHICS AND INTEGRITY IN A GOVERNMENT OWNED
BANK: UTILISING PERSONNEL AND CULTURAL
CONTROL MECHANISMS**

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Abstract

Code of Conduct and Code of Ethics are new to most of the organization in Malaysia with the release of Code of Conduct by Securities Commission. The enforcement of Bank Negara Malaysia for all the financial institutions to have a Code of Ethics implies the importance of these controls to measure the employees' commitment to ethics and integrity in the organization. The focus of this paper is to analyze the effectiveness of personnel and cultural control in a government owned bank. The case issue is to evaluate whether cultural and personnel control mechanism are effective in ensuring that the staff's promote ethical and integrity behaviour in order to lead the bank to achieve its status as one of the leading community bank in Malaysia. This study has integrated multi methods approach in information gathering such as interview, opinion survey, and observation. Tools for analyzing which are the SWOT analysis and benchmark according to the global standard and integrity were applied. The findings show that ethical and integrity issues among employees in this bank are in related to non-compliance, attendance, work performance, serious pecuniary embarrassment, breach of trust, and falsifying of documents. The introduction of Code of Ethics in 2010 has created awareness among the staff's and there is a slight reduction in the number of disciplinary cases reported. This case provides useful information to the organization in areas that need improvement and the relationship between these controls and the staff's behaviour that can be reflected in the disciplinary cases reported.

Key Words: Personnel Control, Cultural Control, Ethics, Integrity, Code of Ethics, Code of Conduct, Whistle Blowing, Ethical Training

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Introduction

A series of corporate collapses in Malaysia and throughout the world over the last 20 years have given rise to considerable debate and an increased focus upon the effectiveness of management controls and risk management in organization. Shared organizational values have become a more important tool for ensuring that everyone is acting in the organizations best interest.

Ethics and integrity among employees of banks are a significant issue in the banking sectors as it leads to effective and efficient control system, the best measure for preventing and detecting fraud, especially in the banking sector. The importance of banking sectors to Malaysian economy is supported by contribution to 8.6% of nominal GDP (2010) and is expected to grow between 10 and 12% by 2020 (Malaysia's Financial Sector Blueprint).

As a financial institution having custody over people's savings and responsibility over their financial matters, employees of Bank Co (name has been changed to protect the identity of the organization) should be committed to carry out business with total accountability, honest and fairness to safeguard peoples' trust and confidence. Focus on personnel and cultural control is indeed very important to address its commitment to promote ethics and integrity in its businesses to maintain a long-standing relationship with its customers. Failure to adhere with these controls will place this organization to suffer any adverse effects on performance, sustainability, and competence of the bank to serve community as a whole.

Literature Review

Management control in an organization is the back end of the management process and a good management control can address organizational problem such as thefts, frauds and unintentional errors (Merchant & Van der Stede, 2007). According to Simons (1995), MCS consists of four interrelated control systems: beliefs (e.g. mission statement), boundary (e.g. Code of Conduct), diagnostic (e.g. budgets) and interactive (e.g. management involvement) systems.

Ethical breaches have been reflected in many organizations with the rise of scandals in business such as accounting scandals that leads to the collapse of high profile corporations around the world, including Enron and World Com (MacNab & Worthley, 2008). These scandals also commonly known as corporate misconduct, have been more easily discovered due to the whistle-blowing actions by previous and current employees whom have faith and believe that mismanagement and fraud action occurring in their organization should be informed to the authorities (Pulliam & Solomon, 2002).

During the financial crisis, it does not only affect the economic system, but people are concern on ethics and integrity issues as, the financial industry has turn into an area of unmitigated self-enrichment. A clear alarm and trigger towards a proper ethical management was established in 1997 financial crisis where demand from the local and foreign investors, globalization and digitization of businesses create awareness that ethics and integrity management must be incorporated into its operation and not an option. Most of the leading companies have started to consider and adopt ethical management such as developed Code of Ethics and conduct, revising charter of eth-

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ics, moving organization into ethics - dedicated organizations, declaring ethics principle, and conducting ethics training.

In Malaysia, the Auditor-General Report on performance audit has been popular medium that serves as a feedback channel to supply information to the Government and other stakeholders parties on how public money has been wisely spent in government programs, projects and activities, are there any misconduct in terms of planning and organization of public monies, whether the completion of the projects have been effectively monitored in order to secure the desired outcomes.

Effective ethical and integrity management system depends on the mission, vision, and core values set by the organization. A particular staffs or employees shall behave in a manner that supports the value and commitment of the organization to uphold ethics and integrity into the organizational culture. In order for the employees to follow the organizations direction, the ethics goals set by the company should be reasonable, clear, measurable and achievable (Dubinsky, Richter, 2009).

Leaders and managers must demonstrate their support and awareness towards moral judgment in order to set as a good example for their staffs to follow their actions. Another criteria set for an efficient leader is that they possess ethical analytical skills in consistent with the organization goal. To achieve this, ethical leadership in an organization is important to address ethical issues in the industry they operate.

Embedding ethical values in the education and learning curriculum will raise consciousness and the capacities of bank professionals, and perhaps even shape behav-

iours at all levels including senior management. This will also expose employees at all level with challenging ethical dilemmas to prepare them to recognize, appreciate, and resolve ethical issues they will encounter in everyday business.

In the 2012, Chartered Global Management Accountant conducted a survey on acting under pressure in the workplace and found that 79% of organization has a Code of Ethics, 54% felt the pressure to compromise with ethical conduct, 81% agree that they contribute to the management of ethical performance, 36% of the respondent think that managing ethical performance is part of their role and 78% agree that they will benefit from collecting ethical management information.

Malaysia introduced its first whistle-blowing act in 2003 under the Securities Industry (Amendment) Act 2003 (Wahab, 2003). In order to support the whistle blowing policy and to move towards a corruption free country, Malaysian government has urged major stakeholders to uphold whistle-blowing law with the provision of protections, incentives and non-monetary rewards for whistleblowers (Hassan, 2006).

Research Methodology

A case study of a state controlled bank is used in this research. Bank Co has nearly eight million customers throughout Malaysia and with total retail savings deposits of nearly RM12 billion. Bank Co has over 6000 employees with almost 400 branches throughout Malaysia.

The main sources of information gathered are from the interviews session with State Director and 4 officers (See Table 1. at the

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end of this article). Documents that were reviewed are the bank's internal policy and procedures distributed throughout branches which are the Code of Conduct, Code of Ethics, disciplinary procedures, corporate profile and magazines and journals. An Employee Ethics Survey has also been circulated to 30 staffs to get their responses and understanding in the area of Code of Ethics, whistle blowing and ethical training, and education.

Findings

The company's mission statement is to encourage and promote savings, investment activities, and other financial management services to improve the standard of living and quality of life of Malaysian. Vision statement of this bank is to provide comprehensive and integrated financial services.

According to Bank Co State Director, this bank operates in a highly regulated industry where any red flags are closely monitored by Central Bank of Malaysia, thus any matters related to ethics and integrity within the bank's surroundings are not subject to compromise. The focuses of this case are cultural and personnel controls used to promote ethics and integrity in the organization.

Code of Conduct and Code of Ethics would act as cultural controls within an organization. Code of Conduct of this organization is an important document as it foresees that misconduct may arise which has the possibilities to place this company's reputation at risk and to deal with partners risk and misconduct committed by employees.

As one of the leading financial institutions that is responsible for the savings and financial matters of the public affairs, Bank Co staff's must ensure the trust and confidence that has been given. They shall at all-time carry out duties and responsibilities with a high level of professionalism, dedication, honest and sincere, polite and have self-discipline. Code of Ethics was prepared in order to provide guidelines on the attitude and conduct required by the management to ensure consistency of standards of conduct by employees of the bank. It includes prohibitions to allow private interests conflicts with the duties, confidentiality and take parts in politics.

Bank Co issued circular to provide guidance on the process of reporting suspected cases of misconduct and violations of the policy by staff which supports whistle blowing. In order, to create an ethical work environment and culture of compliance among staff, any whistle blowing cases should be directed at Report Centre headquarters to handle the various reports of misconduct, abuse of power or a suspected violation of policies or that have the potential to affect staff.

Case Analysis

In this case, the evaluation on personnel and cultural control in Bank Co was conducted by applying SWOT analysis and Global Ethics and Integrity Benchmark to evaluate on the management control system and its impact on the staffs behaviour towards compliance to the management control system in the bank.

SWOT Analysis

SWOT analysis serves as a business plan to this bank to determine strengths, weak-

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nesses, opportunities, and threats which focuses on the internal and external factors in relation to personnel and cultural controls (See Table 2. at the end of this article).

Benchmark against Global Ethics and Integrity

Global Ethics and Integrity Benchmark (Dubinsky & Ritcher, 2009) is a tool encouraged be used by companies to evaluate and measure whether sufficient actions and awareness were given to ethics and integrity values in a company. In this case, three categories of this benchmark were chosen to be evaluated on the ethics and integrity practices which are Code of Ethics, whistle blowing, and training. The best rated practices with 100% benchmark were used as a guideline for further analysis (See Table 3. at the end of this article).

Trend Analysis in Customer Complaints and Reported Disciplinary Cases

Data on customer's complaints and disciplinary cases of unethical behaviour among Bank Co staffs are compared for 2 years. Analyses are carried out to study the implications of personnel and cultural control to curb any unethical behaviour or to make conclusion if those standards are not sufficient enough to create a culture where the employees adhere to ethics and integrity in their daily routine operation.

The number of customer complaints in areas of inefficient services and misbehaviour of staffs gradually decreases from year 2010 to 2012 and during this period, the Code of Ethics were introduced by Bank Co in April 2010. Code of Ethics provides guidelines for customer service relationship between the bank's staff and the cus-

tomers. Furthermore, control mechanism by Human Resource Department by providing reports on customers' complaint into regional and state level records separately and place pressure for Bank Co to compete in terms on zero complaints.

Disciplinary cases in this bank are at moderate level with an increase in year 2011 to 922 cases as compared to 811 cases in 2010. Non-compliance cases dominated the record by 496 cases and attendance problem were reported 253 cases in year 2011. Non-compliance cases includes unauthorized amendment to cheque, transaction without customers' signature, poor ATM machine management, moonlighting, failed to declare education/marriage status, false claim and receiving gift without declaring to bank.

Recommendations

Bank Co has undergone various improvements to its product and services to enhance its delivery system as a federal statutory body. The bank has achieved 12.6% yearly revenue growth. With this performance and growth, Bank Co needs to improve on its internal control factors to cultivate ethical and integrity behaviour among its employees.

Bank Co should focus on prevention rather than detention. This is validated by survey to 30 staffs that agree up to 61% that rules on ethical issues and disciplinary cases are too strict and limiting while 39% agree that Bank Co standards and practices are very effective.

Communication of ethics and integrity into Bank Co culture by the leaders and management should be done in meetings and with proper training courses to staff.

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There is also a need to appoint Ethics/Integrity Officer to reflect its efforts and continuous support for ethics and integrity in its daily operation.

There should be improvement to the term of contract for auxiliary police staff that poses threat to this bank since its current turnover rate is 6%. Bank Co need to revise the contract term and salary for this group so that their service can be sustained for a longer period of time.

Management need to review Code of Conduct and Code of Ethics to include personal transaction with its clients, suppliers, vendors and contractors and agents to uphold people's trust and confidence and perform business with high level of accountability, fair and honesty as one of the leading financial institution having custody over people's savings.

Improvements need to be incorporated to the Whistle Blowing Policy on notifications to the whistle blower after the investigation and opportunity to be represented by advocate since currently this term it is not part of the written document.

Ethics training should be included in the training calendar and evaluation should be done on a frequent interval. The minimum number of days for training should be increased in a year.

This bank should promote ethics and integrity practices using channels such as website, newsletter, and event and even using a social media such as group emails, Facebook and Twitter.

Conclusions

In general, this case has achieved its purposes which are to measure the effectiveness of control mechanism in personnel and cultural control adopted by Bank Co to cultivate ethical and integrity behaviour in the organization. Bank Co has established a detail and comprehensive Code of Conduct and Code of Ethics for this purpose, and this bank does not tolerate with unethical behaviour since the disciplinary action taken is sufficient enough to serve as reminder for its staff.

Based on the trends customers' complaint and disciplinary cases reported, the introduction of Code of Conduct and Code of Ethics has created awareness to the staff as can be seen in the reductions of customers compliant. Cultural controls in Bank Co have been designed to promote ethical and integrity culture in the organization. Personal control analyzed in this case which is the element of training and education need to be improved and training on ethical conduct should be endeavour by Bank Co to incorporate good governance and ethical practices.

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Table 1. Interview Session

Position	Departments/Units
State Director	-
Head of State Operations	Department Head Of Operations
Section Head (Services)	Department Head Of Operations
Head of Security Unit	Direct under State Director
Officer	Customer Service Unit

Table 2. SWOT Analysis

Strength	Weaknesses
<ul style="list-style-type: none"> • Very prominent Board of Directors and management team with experienced in multiple fields. • Bank Co Penang branch reported profit before tax amounting to RM25.22 million (as at September 2012) as compared to RM21.23 million in 2011. • A survey on the customer satisfaction level by The Nielson Company in 2010 found that 8 out of 10 Bank Co customers are generally satisfied with the quality of staff services at branches. 	<ul style="list-style-type: none"> • Staff turnover rate for auxiliary police is estimated at 6%. • The absence of compliance officer/ethics officer will burden other division to carry out matters related to ethical and integrity matters in the bank. • Policies and procedures related to managing the staffs, control system, and measures to address disciplinary cases are not reviewed regularly. • Disciplinary cases increase in year 2011 to 922 cases as compared to 811 cases in 2010. Non-compliance cases dominated the record by 496 cases and attendance problem were reported 253 cases in year 2011. • Training given by Bank Co emphasizes more on the rules and policies rather than on ethical and integrity matters.
Opportunities	Threats
<ul style="list-style-type: none"> • Range of products and services that can be offered by Bank Co to be in line with other commercial banks. 	<ul style="list-style-type: none"> • Faces increasing competition from Development Financial Institutions (DFIs) in providing personnel financing. • Customers' complaints in year 2011 were 188 cases and until September 2012, total customers complaints are 90.

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Table 3. Benchmark against Global Ethics and Integrity

No.	Benchmark on Legal Compliance, Policies and Rules	Practice of Bank Co
1.	Company has documented ethical standards and principles expected of third parties (suppliers, vendors, consultants, agents, and contractual workers)	Bank Co has documented ethical standards to its customer in the Code of Ethics (April 2010). It explains the expectation and fair treatments towards its customer and integrity and accuracy of transactions. There is no specific principle or guideline established to third parties such as suppliers and agents.
2.	Leaders uphold the code, regularly referring it in speeches; use the code in everyday decision making.	Bank Co does uphold the code and it is stated clearly into mission, vision, core value, and Code of Conduct of the bank. Head of State Director stress compliance towards rules and regulations in morning briefing to the front line staffs dealing with customers. Code of Conduct, Code of Ethics and disciplinary procedures are used by Industrial Relations Officer, Human Resource Department in Head Quarters to bring any disciplinary cases by staffs to the Bank Disciplinary Committee.
3.	The organization demonstrates transparency and accountability by requiring key employees to make regular disclosure such as personal finances and conflicts of interest.	Bank Co requires disclosure of personal finances and conflicts of interest on annual basis. The practice includes all level of staff from top management until to the bottom level of the organization.
4.	The code and supporting rules and policies are seen as best practice documents in the organization industry.	All documents related to Code of Conduct, Code of Ethics, staff handbook, and internal policies are accessible through e-portals.
No.	Benchmark on Whistle-Blowing	Practice of Bank Co
1.	Employees are encouraged to speak up and bring forward their concerns or complaints about unethical behaviour or misconduct. Company offers confidential channels or resources to which employees may turn.	Bank Co provides confidential channel for employees to forward their complaints about any misconduct among staffs through its internal circular.
2.	Both callers and subjects receive procedural due process protections including confidentiality, opportunity to present witnesses and evidence, chance to be heard and respond and opportunity to be represented by advocate and notifications of the outcome of the complaints.	Staffs are encouraged to submit a report with evidence directly to any panel from Department of Risk Management, Audit, and Human Resources Department in Head Quarters (HQ). Whistle blowing reports are classified as confidential complaints. In the whistle blowing policy, there is no information that whistles blower will be accorded the privilege to be notified on the outcome of the disclosure upon the completion of the process.
3.	Supervisor and managers receive training on how to recognize and prevent retaliation.	Branch level officers are not held responsible for any complaints (whistle blowing) by this bank's staffs since it is under the supervision of Risk Department and Human Resource Department in HQ. There is no specific training given

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		to recognize and prevent retaliation and all the information is regarded as highly confidential.
4.	Victim of retaliation will be made whole.	Bank Co's policy on whistle blowing protects both the callers and subjects.
No.	Benchmark on Ethics Training and Education	Practice of Bank Co
1.	Company provides ethics training to all Board members, executives, managers, supervisors, employees, and agents and set minimum number of ethics training hours to be completed annually for each category.	Board members are given Professional Training conducted local/abroad. For staffs, structured training is given based on report from Training Need and Analysis. There is no specific training hours to be completed but every employee are required to at least participate in 1 training course per year.
2.	Ethics training are focused on issues such as ethical awareness; ethics in decision making, ethical leadership, and accountability is being integrated into organization training courses.	Compliance trainings are given to all the staffs every 3 months. Current issues are discussed and the input is from Audit & Compliance Department.
3.	Special ethics training is evaluated for effectiveness and it is being reviewed and updated constantly.	There is no special evaluation done to ethics training. Bank Co has not properly classified its ethics and integrity training separately.
4.	Does the company joint effort with other industry, communities to conduct research into ethics training to measure its effectiveness and evaluation methodologies.	There are no specific grants awarded for this purposes but Bank Co allocates 1% of its profit after tax for training purposes. A panel to evaluate all external trainers and also has Resident Trainer who give's and evaluate on-going training at its Learning Centre.

MANAGING HYBRID-ELECTRIC VEHICLE ADOPTION IN AUTO MOBILE INDUSTRY OF MALAYSIA

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Abstract

Hybrid vehicles have witnessed increasing interest from Malaysian consumers due in part to their affordability and efficient fuel consumption. The purpose of this study is to examine the factors affecting hybrid-electric vehicle (HEV) adoption being moderated by government policies. Factors being considered in this study are financial benefits, vehicle attributes, psychological needs, environmentalism and the moderating effect of government policy in the form of tax incentive. This study was conducted quantitatively by collecting responses from consumers in the three major economic zones of peninsular Malaysia using survey questionnaire. Financial factors and vehicle attributes have been found to have an impact on the decision of adopting an HEV. The findings from this study will increase knowledge of the marketers of hybrid cars in Malaysia as it would be able to display the undermining situational and psychological factors that would impact the sale of such vehicles in the country

Key Words: Hybrid-electric Vehicle (HEV), Situational Factor, Psychological Factor,
Decision Making

Introduction

The premium price of foreign makes have segregated the Malaysian automobile market into the national and non-national car segments. The national car makers, namely Proton and Perodua have been protected by the Government by selling their products at lower prices. Japanese and Korean manufacturers often offer their products at cost competitive price whilst European brands are also maintaining their popularity. The excessive taxation being levelled at cars in

Malaysia is always to be blamed for the heavy price tags. However, despite regularly complaining of the excessively-priced vehicles, remarkably, Malaysian consumers are willing to spend generously when purchasing cars. Hybrid vehicles too have witnessed increasing interest from Malaysian consumers due in part to their affordability and efficient fuel consumption. It has been acknowledged that the adoption of new energy or hybrid electric vehicles is an effective way to reduce harmful emissions of greenhouse gases. Environmental awareness and rising concerns on climate change combined

with non-governmental organization pressure has led to many governments including Malaysia providing incentives for its citizens to adopt a much greener technologies. Malaysian government has launched and announced a second round of tax restructuring involving the sale of hybrid-electric vehicles (HEVs) with an engine capacity of 2 liters or less. The first tax restructuring was done during the tabling of the 2010 budget by reducing the excise duty by 50% and 100% of the import duty. A subsequent restructure during the 2011 budget saw a further reduction of both the import and excise duty by 100% for two years, ending on 31st December 2012. The initial tabling of the reduction in taxes was extended by another year during the tabling of the 2013 budget, to have it expired on the 31st of December 2013. This widespread support suggests that the Malaysian government believes that the adoption of HEVs will be an important component in their aim to reduce the consumption and dependency of fossil fuel, which is currently being sold at subsidized rates, and curb the carbon dioxide emissions (Table 1). Government policies seem to be a factor that skews consumers' decision making towards the purchase of HEVs. While most of the studies done point the decision making to be influenced by government policies; they are all done in the Western economies where else Malaysia is on the eastern bloc. According to Aoyagi-Usui et al. (2003), there are differences in environmental values between Asian and Western countries. While Asian people tend to perceive environmental values as related to traditional concepts, such as respecting parents and family gatherings, Western people tend to think environmental concepts are contrary to traditional values. Another factor that influences the decision for purchasing a hybrid vehicle is the cost of fuel (Diamond, 2009). Though in Malaysia the price of RON (Research Octane Num-

ber) 95 is controlled by the government through heavy subsidies, most of the Western countries where researches have been done maintain a price regulated by the market. This could be another factor that influences the consumer decision in purchasing a HEV should the government decide to discontinue the fuel subsidy. A deeper literature review was done to determine on the antecedents of HEV preference. Furthermore, due to the differing values between the Eastern and Western countries, situational and socio-demographic factors may well influence the purchase decision of HEVs amongst Malaysians. Therefore, a study encompassing the variables as mentioned earlier; government policies – tax incentive and possible change in fuel subsidy mechanism, part of situational and psychological factors, is warranted to be undertaken. This study is conducted to determine the main factors that influence the adoption of HEV and the how does the government policy impact these factors in decision making.

Literature Review

Hybrid Electric Vehicles (HEV)

A hybrid vehicle is commonly referred to hybrid-electric vehicle (HEV). This system is made up of a combination between an internal combustion engine and one or more electric motor. The electrical machine is designed to handle transient power variations and helps the engine to operate more constantly such that higher efficiency and lower tailpipe emissions can be achieved (Magnussen, 2004). There are several ways in which electric motors can be combined with fuel engines (Toyota Global, 2013). The two major categories are series hybrids and parallel hybrids, and a combination of both (Maggetto & Van Mierlo, 2000). Hybrid vehicles were introduced in the US in 2000, having

an adoption rate of only 0.05% (Beresteanu & Li, 2011). The adoption rate in the US is predominantly influenced by two factors; government policies and rising fuel price. Diamond (2009) stated that the higher adoption rate of HEVs in the US was attributed to increasing fuel price. He also went on to say that the effect of rising fuel price had a greater significance on the adoption of HEVs compared to government incentives. However, Diamond (2009) did mention that incentives which were provided upfront payment appeared to be most effective. Another reason for the initially low adoption rate could be attributed to the low levels of knowledge of this technology. Early adopters are normally known as innovators, a group of consumers that are eager to try new innovative products. They are normally well educated, and can afford the financial risk related to the new product (Kotler et al., 2013). Hence, based on Diamond's (2009) findings, it is certainly interesting to ascertain if a similar trend is presented in Malaysia where the price of fuel is controlled and the tax incentives are given upfront. Or, is there factors in particular that lead to consumers choosing a HEV over a normal internal combustion engine.

Financial Benefit

The capability and purchase price of available vehicles determine which models are considered first (Lane & Potter, 2007). They argue that the high initial cost often acts as a major barrier in adopting HEVs. Consumers from the higher income group showed a higher acceptance to alternative fuel vehicles as compared to the middle income group (Segal, 1995). This could be because the higher income group is less price sensitive towards the vehicle purchase behaviour. The initial cost of ownership for HEVs is higher than conventional ICE vehicles which is due

to the technology incorporated and battery cost (Crist, 2012). The more sophisticated consideration of issues that include running costs, fuel economy, performance, safety, styling, image, brand and reliability come second to the purchase price (Adamson, 2005; Lane & Potter, 2007). Similar finding were discussed by Segal (1995) in his work. The advantage of lower fuel bills can be attractive to potential HEV buyers (Borthwick & Carreno, 2012; Klein, 2007; Ozaki & Sevastyanova, 2011). Therefore, certain utility attributes, such as a higher fuel economy, could command a significant premium before the product reaches the mass market, provided that fuel economy of a HEV is better than its competitor – an ICE vehicle (Adamson, 2005). Consumers tend to opt for more fuel efficient HEV with the increasing fuel prices as it provides a better fuel economy. However, Turrentine & Kurani (2007) argues that automobile buyers do not have the basic building blocks to make calculated decision about better fuel economy, and most do not keep track of fuel cost over any significant time period, be that the life of the vehicle, their duration of ownership, annually or even monthly. Maintenance cost and other related expenditure such as replacement battery and other cost like congestion fees exemption in the UK may also influence the adoption of a HEV (Adamson, 2005; de Haan, Mueller, & Peters, 2006; Potoglou & Kanaroglou, 2007).

Vehicle Attributes

The features of a HEV also play a significant importance in its adoption besides the financial benefits (Adamson, 2005). The true performance of a HEV can be compromised when financial benefits are given as a form of incentive to stimulate the increase in HEV adoption argues Lane & Potter (2007). There are no specific features of a HEV that is set

as a benchmark to gauge its acceptance. The more common features studied are the safety features, reliability, size and space among others. Features such as reliability, safety, size, and design are selected in this study. Safety and reliability were found to be the next most important feature after the price of a HEV (Adamson, 2005), (Adamson, 2005; Ozaki & Sevastyanova, 2011). Size and design would be the other two features that would be taken into consideration in this study since the Malaysian consumers tend to show preference towards the conventional sedan type vehicles while most of the HEVs that are available are not sedans. To sum, the term feature has been used in this paper to refer to consumers' comprehension for the quality of the HEV, which includes the selected features that are common in the local market.

Psychological Factors

Psychological factors are related to an individuals' attitude, perception, beliefs, values and norms. These features are subjective and they tend to influence the behaviour of an individual (Ajzen, 1991). Psychological factor makes up of the internal factors within oneself. This internal values lead up to intention forming behavioural pattern as the Ajzen's TPB describes. Similar to this, the Values- Belief – Norms (VBN) theory casually links values and beliefs, with personal norms and actual behaviour (Lane & Potter, 2007). The psychological factors which are more subjective in comparison to situational factors are equally important in determining a purchase decision. Values such as attitude, lifestyle, personality and self-image (Choo & Mokhtarian, 2004) play important roles in one's behavioural pattern. Hoyer & MacInnis (2008) share a similar idea with Ajzen's TPB that consumers' value and beliefs need to be considered when examining the influ-

ences that affect purchasing decisions. Ajzen (1991) further went on to say that the beliefs central to the TPB include behavioural beliefs (related to the consequences of certain actions), normative beliefs (perceived expectations of others) and control beliefs (the actions that an individual believes can be enacted / influenced). These beliefs are strongly influenced by a person's values and are, to some degree, dependent on the information available to the individual. However, Conner & Armitage (1998) believes that the TPB alone only provides an account of the determinants of behaviour when both motivation and opportunity to process information are high. When one or both of these conditions does not apply, attitudes and other cognitions may impact on behaviour in a more spontaneous fashion. With reference to this, a detailed literature review was done to determine the psychological factors based on previous studies. Of the studies reviewed, the main factors are environmentalism and psychological needs.

Environmentalism

Environmental values play a primary role in pro-environmental behaviour: values affect people's beliefs, which then have influences on personal norms that lead to consumers' pro-environmental behaviours (Reser & Bentrupperbäumer, 2005; Stern, 2000). The Global Environmental Survey (GOES) finds a gradual intergenerational value shift in the post-war generation towards post-materialist priorities, likely to result in more pro-environmental behaviour (Bennulf & Holmberg, 1990; Betz, 1990; Hoffmann-Martinot, 1991; Wright & Inglehart, 1991). So, although pro-environmental values do not guarantee pro-environmental behaviour, it is likely that pro-environmental values lead to pro-environmental behaviour. A study by Ohtomo and Hirose (2007) found

that people who are environmentally conscious do not necessarily behave pro-environmentally: for example, they might throw rubbish away rather than recycle it when the surrounding environment (population) simply throws rubbish away. Consumers with high environmental awareness are more willing to adopt HEVs because they consider the purchase as their part in preserving if not minimizing the damage to the environment (Lane & Potter, 2007). Emissions performance of a car matters substantially, but its consideration varies heavily across in Germany (Achtmeier, 2012). Although not an influential criteria in this study, Hersch & Viscusi (2006) found that older people are less willing to pay higher fuel prices in order to protect the environment. They also found that the higher the consumer's education level, the higher the support for environmental policy becomes, but to a lesser extent with income. Women, however have stronger preference towards the environment (Torgler, Garcia-Valiñas, & Macintyre, 2008). Similar findings were also observed by Daziano & Bolduc (2011). However, Chen & Chai (2010) discovered that gender did not influence in the environmental attitudes. Moral obligation or personal norm has also been shown to be an important factor as the basis for a pro-environmental behavioural disposition (Chen & Chai, 2010; Stern, 2000). Prius owners proudly reported that the number one reason for purchasing the car is because it "makes a statement about me." What statement does the Prius make? "It shows the world that its owner cares" (Maynard, 2007).

Psychological Needs

The intention to satisfy psychological needs is one of the most important factors affecting the acceptance of HEVs (Schulte, Hart, &

Vorst, 2004). HEV ownership is a reflection of sharing the community's values and norms (Kahn, 2007). This means that the need to comply with the community norms could influence consumer preference for HEVs. Self-image congruence captures how the consumer feels the product relates to his view of who he is and who he would like to be, in the opinion of society (Sirgy, 1982). This is related to social value because others can influence the consumer's ideal self, or who they would like to be. One would be concerned of how those surrounding him would think regarding this action. Consumers are often influenced by the consumption patterns of neighbours, co-workers, opinion leaders and other peers. According to Defuante, Huet, & Amblard (2005), individuals assign a social value to products, which evolve during their interactions with others and with information. This is especially true for high involvement products, which often times are symbols of status, luxury, and personal identity, the way others perceive consumer use of products is likely to be an important factor in purchase considerations (Hickie, Konar, & Tomlinson, 2005). Owning a HEV could therefore be considered by consumers as being different compared to those who can't afford or don't own a HEV, or as a label to show their ability to afford something new or better (Kang & Park, 2011). Social value is likely to play an important role in the purchase decision in Malaysia as the Eastern countries are generally perceived to be more of a collectivist culture compared to the Western countries that form an individualist culture (de Mooij & Hofstede, 2002). Jeon, Yoo, & Choi, (2012) findings however don't entirely support de Mooij and Hofstede's work. They, (Jeon et al.), found that there was an association between purchase decision and normative belief only in China, but not in South Korea. Ozaki & Sevastyanova (2011) believed that

normative beliefs and consumer's willingness to comply with beliefs of their groups can influence their hybrid car purchase decision. The understandings of Malaysian consumer and their actions will help marketers plan proper strategy to increase the adoption of HEVs.

Government Policy

A substantially large number of studies have been done to study the relation between government policies, tax rebates in particular, and HEV adoption (Gallagher & Muehlegger, 2011). Anderson et al. (2011) studied the effect of government incentives offered to Prius buyers based on consumer purchase data concluding that consumers took advantage of most tax incentives and timed Prius purchases to coincide with generous federal incentives. Using data from a Canadian province, Chandra et al. (2010) found that tax incentives were an effective way to increase hybrid vehicle sales. Another study conducted by Berensteanu & Li (2011) also found that federal incentives had a positive influence on hybrid vehicle sales. The price of fuel also has been determined to influence the adoption of HEVs (Diamond, 2009; Turrentine & Kurani, 2007). Beresteanu & Li (2011) also found that the adoption of models with hybrid technology was higher compared to those of normal gasoline engine due to the increased fuel price. In most countries, the price of fuel is regulated by the market price, unlike in Malaysia where it is subsidized. While most studies so far has looked at the direct effect of government policies and the adoption of HEV, none so far have been done to determine the moderating effects of these policies in influencing HEV adoption. Hence, this paper is in a timely response to fill this gap in determining the moderating effect of government policy towards the factors that in-

fluence HEV adoption. We will be looking at two government policies in this study – tax incentive and fuel price. Government incentives for example, increased the adoption rate of hybrid vehicles in Canada (Chandra et al., 2010) and in the US (Diamond, 2009). Likewise, similar patterns were seen in Malaysia where the adoption rate of HEVs increased significantly after the tax incentive was announced for hybrid vehicles. However, this tax benefits expired at the end of last year. HEVs that are currently imported into Malaysia in the form of a CBU unit are subjected to full tax causing its price to increase significantly. Policy measures present at the time of purchase were found to have a high degree of influence upon future vehicle purchasing decisions for HEVs, specifically rebates (Borthwick & Carreno, 2012). Similar findings were also noted by Gallagher & Muehlegger (2011) whereby consumers responded better to sales tax exemption, which is immediate and automatic at the time of purchase, compared to an income tax credit, for which a consumer must understand, apply for and collect as part of their tax return although sales tax incentives tend to be less generous than income tax credits. Fuel economy is the key decision factor for private car buyers (Lane & Potter, 2007). This finding can be further attested by the work of Diamond (2009) where he found that soaring fuel costs contributed to the adoption rate of HEVs in the U.S. Beresteanu & Li (2011) also found that the adoption of models with hybrid technology was higher compared to those of normal gasoline engine due to the increased fuel price. Consumers tend to opt for more fuel efficient HEV with the increasing fuel prices. Beresteanu & Li (2011) mentioned that the HEV sales in U.S.A for 2006 would have been 37% lower had the price of gasoline been the same as 1999 levels. The increase adoption of HEV with the

increased fuel price is because a HEV works with a combination of an internal combustion engine that uses fossil fuel and an electric motor. The joint setup gives HEVs better mileage compared to their non-HEV counterparts.

Fluctuating fuel prices may not pose a concern in the Malaysian market as fuel is subsidized here and the price (RON 95) is controlled too, unlike in the U.S. where it operates on an open market system. The price of RON 97 however fluctuates according to the market rate but the HEVs that are currently sold here do only require a minimum of RON 95 fuel. However, the government is currently rationalizing its subsidies and saw the price of RON 95 fuel increase from USD 0.60 per liter to USD 0.66 per liter from September 2013 onwards. The government constantly reminds the public through its channels that the fuel subsidy would be revamped in the future, thus possibly costing a hike in fuel price. Hence, it would be interesting to know how consumers would react if such a change happens.

Research Methodology

This study was conducted using quantitative research method. This study was correlational and was conducted in a non-contrived setting, undertaken at a single point in time which is called cross-sectional design. The population of this study consists of Malaysians residing in the three major areas in peninsular Malaysia who are working and have the capacity to own a car. Data was collected via survey questionnaire using a 7 Likert scale where '1' would translate to strongly disagree and '7' will be strongly agree while '4' would be a neutral number to indicate no preference. Hardcopy questionnaires were distributed randomly to respondents. The softcopy questionnaires were

distributed through email, targeting at respondents from the central and southern region. A total of 150 responses were collected during the data collection period using both the internet based questionnaire and the conventional printed questionnaire. However, only 132 responses were accepted to be used for the analysis (Table 2)

Significant Findings and Results

A total of 73 respondents were from Penang while 38 and 21 made up for the respondents from the Klang Valley and Johor respectively. The modal age group of the respondents was from 31 to 40 making up to 75 responses. A total of 75 respondents had a Bachelor's degree while 39 of them had a Master's degree. Most of the respondents were married amounting to a total of 81 and the majority household size is 3, making up to 34 respondents. Most households recorded a net income of USD 944 to USD 1,900 which makes up 55 respondents followed by USD 1,900 to USD 2,800 for 41 respondents. (Table 3)

Hypothesis Testing

The hypotheses were tested with and without the moderating effect using Smart PLS 3.0. (Table 4)

Hypothesis 1: *There is a positive relationship between financial benefits and HEV adoption.* Based on the results, we can conclude that this hypothesis is significant with a t value of 3.075 at the significance level of 1%. This means that the intention to adopt a HEV has significant impact with the financial benefits. Hence, the hypothesis is supported.

Hypothesis 2: *There is a positive relationship between vehicle attributes and HEV*

adoption. Vehicle attributes was found to be positively significant at a significance level of 10% with a t value of 1.842. This means that though the attributes in a HEV impact the intention to adopt one, but it does not have a great bearing. Nevertheless, the hypothesis is supported.

Hypothesis 3: *There is a positive relationship between environmentalism and HEV adoption.* Environmentalism does not seem to matter to most of the motorists that were surveyed. This variable was tested to be not significant with a t value of only 1.165. It appears that environmental values, which are the main selling point of HEVs does not assimilate with the respondents in this study. The hypothesis is therefore rejected.

Hypothesis 4: *There is a positive relationship between psychological needs and HEV adoption.* Psychological needs construct include motivating items for consumers to pursue esteem, love and self-actualization through the sense of belongingness in a group. The results for this relationship had a t value of 2.715 at a significance level of 1%. This finding is in tandem with the societal norm of the eastern countries where collectivism thrives over individualism. The hypothesis is thus supported. Based on Table 3, it can be concluded that none of the interaction between the independent variable and the moderating variable has met the critical t value.

Conclusions and Implications

Conclusions

The findings of this study produced mix results whereby some of the findings matched with the work of previous researches while some did not. A significant relationship between financial benefits and intention to

adopt HEV is revealed and synonymous with the past literature which mentions that affordability (Notani, 1997) is the most important factor in determining the purchase behaviour. This fact is further supported by the descriptive statistics that was done to determine the acceptable price for a new HEV that would be acceptable by the mass markets in Malaysia. It is also revealed that vehicle attributes have a significant relationship with the intention to adopt a HEV. This finding is consistent with the work of other researchers where vehicle attributes matter.

The highly notable works of (Adamson, 2005; Borthwick & Carreno, 2012; Caulfield, Farrell, & McMahon, 2010; Ozaki & Sevastyanova, 2011; Vrkljan & Anaby, 2011) suggest the same - that vehicle attributes matters whilst making a purchase decision. This does not come as a surprise as when the education level and purchase power of Malaysians increase, the expectations for a vehicle to be bought would also increase. This is also seen by the vehicle distributors here offering models that are highly fitted with all the bells and whistles compared to other developing nations. Attributes that do not match the needs and wants of the local market would result in poor sales. So far, the models that were made available in the Malaysian market may have all the features that would meet the requirement of the domestic market, but may fall short in the size and space offered. The lack of models that would suit a typical middle aged family may be one of the factors that caused the low take up rate of HEVs in general.

The effect of vehicle attributes together with the financial benefits seems to work cohesively in deciding when purchasing a new vehicle. Therefore, it has come of no surprise that that these two factors seem to matter significantly in the intention to adopt a

HEV. And, both this factors are classified as external factors (Lane & Potter, 2007) in their model. The external factors work more as a limiting factor as they represent what is physically available for a potential buyer to choose from. And if the availability does not match the requirement, the take up would not be as expected - such the scenario seen in the Malaysian market for HEV sales though with the tax incentives that were given away. Environmentalism is found not to play an important or significant role among potential Malaysian consumers for HEVs. Most other research work reviewed during the establishment of the framework showed that environmentalism was a factor that attributed to the adoption of HEV. The lack of environmental knowledge may well be a cause for such low levels environmentalism traits.

In order to increase the sales of HEVs, the distributors would need to emphasize on the importance of preserving nature and how can a HEV do so as opposed to owning a conventional internal combustion engine vehicle. Further to that, the government should also play its part by promoting more green initiatives amongst Malaysians. The first step to this could simply begin with recycling. If noticed, the recycling habit amongst Malaysians is low compared to the residents of more developed nations. Waste separation for recycling and the lack of available recycling bins if not centers are contributing factors to low levels of instilling this habit. Greener habits should be instilled into Malaysians as a first step creating greener values among themselves. Creating a 'green' habit is certainly not an overnight task, but the basics have to start in order for it to evolve further.

Education would be the best way to overcome this problem. Psychological needs

were found to be positively correlated to the intention of adopting a HEV. This finding is in tandem with the work of Ajzen (1991) which says that normative belief influences how people behave. This is further attest by the fact Malaysia is more of a collective society. Since societal trend is predominant in the Malaysian society, there will be a high likelihood that the intention to adopt HEV would significantly increase once the society itself moves towards being more environmentally friendly. Tax incentive as a moderator in this study was found not to be significant at all. This result is contrasting compared to the works of Diamond (2009) and Chandra et al. (2010) where they found that upfront tax incentives were best in increasing HEV adoption.

Though the results of this study contradict with those above, tax incentives cannot be ruled out as an effective medium in increasing the adoption rate of HEV. The reason for the negative relationship between tax incentive and intention to adopt HEV in this study could be caused by the fact that most respondents were owners of non-HEVs and they did not find the incentives to be lucrative enough for them to consider adopting a HEV. The results tend to indicate that those who adopted the HEV while the tax incentive was still being given were more of free riders which is similar to what Chandra et al. (2010) found in their study.

Contribution

Most of the studies were undertaken in developed nations particularly in the west but none locally. The findings from this study will increase knowledge of the marketers of hybrid cars in Malaysia as it would be able to display the undermining situational and psychological factors that would impact the sale of such vehicles in the country. It would

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also enable them to derive new strategies to further boost sales revenues. Further to this, the findings from this research will implicate both hybrid vehicle policies as well as how can the government further increase the consumer adoption of clean energy products

amid rising global concerns on environmental issues. Therefore, this paper is unique as it looks in the context of the local market and understands the consumer behaviour in Malaysia.

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Appendix

Table 1. Data on Hybrid Cars in Malaysia

PAULTAN.ORG

NO.	MAKE	JAN - DEC		VARIANCE		REMARKS
		2013	2012	UNIT	%	
1	AUDI	1907	0	1907	0.0%	started since Feb 2013
2	BMW	4	0	4	0.0%	started since Feb 2013
3	HONDA	8550	8712	-162	-1.9%	
4	LEXUS	709	979	-270	-27.6%	
5	PORSCHE	0	11	-11	-100.0%	
6	NISSAN	2008	0	2008	0.0%	
7	TOYOTA	5789	5653	136	2.4%	
	TOTAL	18967	15355	3612	23.5%	

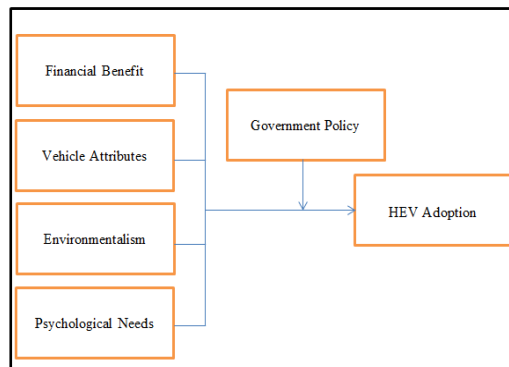


Figure 1. Theoretical Framework

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Table 2. Demographic Profile

Demographic Profile	Description	Frequency	Percentage (%)
Vehicle Type	Non-HEV	126	95.5
	HEV	6	4.5
Location	Penang	73	55.3
	Klang Valley	38	28.8
	Johor	21	15.9
Gender	Male	78	59.1
	Female	54	40.1
Age	21-30	22	16.7
	31-40	75	56.8
	41-50	28	21.2
	51-60	6	4.5
	> 60	1	0.8
Education	High School	3	2.3
	Diploma	11	8.3
	Bachelor's Degree	75	56.8
	Masters	39	29.5
	PhD	4	3.0
Marital Status	Single	48	36.4
	Married	81	61.4
	Divorced	2	1.5
	Widowed	1	0.8
Household Size	1	22	16.7
	2	27	20.5
	3	34	25.8
	4	22	16.7
	5 or more	27	20.5
Income (USD)	< 944	8	6.1
	945 – 1900	55	41.7
	1901- 2800	41	31.1
	2801-3800	14	10.6
	> 3801	14	10.6

Table 3. Summary of PLS Results (Direct Effect)

	β - value	Standard Error	T-Statistics
Environmentalism → DV	0.117	0.100	1.165
Financial Benefit → DV	0.280	0.091	3.075**
Psychological Needs →DV	0.253	0.093	2.715**
Vehicle Attributes → DV	0.147	0.080	1.842*

DV = Intention to Adopt HEV;** p < 0.01, * p < 0.05

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Table 4. PLS Summary for Moderating Effect

	β - value	Standard Error	T-Statistics
Environmentalism * Government Policy \rightarrow DV [#]	0.119	0.485	0.245
Financial Benefits * Government Policy \rightarrow DV	-0.339	0.400	- 0.847
Psychological Needs * Government Policy \rightarrow DV	-0.580	0.368	- 1.574
Vehicle Attributes * Government Policy \rightarrow DV	-0.300	0.436	- 0.684

DV = Intention to Adopt HEV

BRAIN DRAIN:
THE DETERMINANTS OF MIGRANT INTENTION OF
PROFESSIONAL ENGINEERS IN PENANG

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Abstract

Brain drain issues constitute continuous concern for governments, societies, business organizations and academics. Current professional engineers' shortage issue is the impetus for effective strategies aimed at retaining engineers in their current positions. Engineers' behavioural intentions to migrate are not well understood, especially in the context of Malaysia. This study aims to assess the influence that professional engineers' intent to migrate and the level of migrant intention among professional engineers in Penang. To attain its objectives, a survey was carried out among Electrical and Electronic professional engineers from manufacturing firms in Penang. A total of 104 usable responses were received from the respondents. This study found that a negative significant relationship exists between job engagement and migrant intention of engineers. Organization engagement also was found to be negatively associated with migrant intention of engineers. However, job satisfaction, social welfare, job pay satisfaction and human security are not found to be related to migrant intention of engineers in Penang. In addition, the study found that two of the control variables (age and level of education) have significant with migrant intention of engineers. In this study, age was found to be negatively associated with migrant intention of engineers; while level of education have positive significant with migrant intention of engineers. Furthermore, the study also found that the level of Penang engineers' toward intention to migrate is moderate.

Key Words: Penang, Brain Drain, Migrant Intention, Professional

Introduction

In today's highly dynamic globalization, the world's registered the migration between 1960 and 2005, has risen to an average of 919,302 per country (World Bank, 2010). Brain drain is the global migration of human capital and relates more specifically to the professionals from developing to developed nations such as engineers, doctors, scientists and other highly skilled professionals (Beine & Docquier, 2008; Docquier & Rapoport, 2006). The world today is full of advancement in science and technology. The brain drain of professionals is not a new phenomenon due to rapid IT technology (Commander, Kangasniemi, & Winters, 2004).

Malaysia is not excluded in the dilemma with 1,489,168 Malaysians migrating overseas over the 45 year period (World Bank, 2010). The New Economic Model (NEM) reported that over half of 350,000 Malaysians currently are working abroad have tertiary education (The Star, 2010). The competition for professionals and talent workers seems to be intense and fierce (Mahroum, 1999). In the past 15 years, Malaysian government introduced certain programs to attract, facilitate and retain aspiring Malaysian returnees such as Multimedia Super Corridor (MSC) Malaysia in 1996, Returning Expert Programme (REP) in 2001 and recently established Talent Corporation Malaysia to launch a tax incentive of a flat rate of 15 percent income tax for five years and Residence Pass in 2011 (Talent Corporation Malaysia, 2011). However, migration increased shows failure of the government to offer sufficient incentives and opportunities to retain its professional workers (Naim & Iftikhar, 2010).

Developed countries are actively attracting skilled talent through offering a range of in-

centives and institutional mechanisms (Commander, et al., 2004). In particular, the promoting of General Skilled Migration Program (GSM) whether in the Australia (Department of Immigration and Citizenship Australia, 2011) or, Diversity Visa (DV) Lottery Program (USA Travel State Gov, 2011) has been striking.

The focus of this research is to trace the brain drain trends which underlie the severity of setbacks to move up Malaysia to a high income nations. The engineering profession is the scope for this study as engineers are required to drive the nation forward towards the attainment of the high income status by year 2020. According to Performance Management And Delivery Unit (PEMANDU), there are 1,900 Electrical and Electronics (E&E) companies available in Malaysia. E&E industry is one of 12 National Key Economic Areas (NKEA) which is an important industry to directly and materially contribute economic growth to the Malaysian economy (PEMANDU, 2011). E&E is the single largest contributor to the manufacturing sector (over 33% of output) and employs more than 500,000 workers or 35 percent of the total workforce in Malaysia (NEM, 2010). Based on Bank Negara Malaysia (BNM) 2009 annual report, Malaysian manufacturers face difficulties in hiring high skilled workers.

There is currently a critical shortage of engineers of about 22 percent. Brain drain can induce shortages of manpower, for example when engineers emigrate in large numbers it undermines the ability of the origin country to adopt new technologies (Docquier & Rapoport, 2006). Migration of highly skilled engineers bear down a country's economic and social growth (Naim & Iftikhar, 2010). According to Penang Chief Minister Lim Guan Eng, Penang lost out US\$3 billion

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worth of foreign investment because it could not guarantee the adequate supply of experienced Electrical and Electronic (E&E) engineers to the investors (Hassan, 2009). In order to achieve a high-income economy, Penang still requires nearly 15 percent of engineers to transform the manufacturing industry structure to be a high value-added and higher technology industry. Lower pay and lack of a national research and development strategy had been cited as important factors that influence brain drain (Tansel & Gungor, 2003).

In the human capital approach to migrate, the difference of expected wage level between the source and destination countries is cast as the key determinant of skilled migration (Gungor & Tansel, 2005). According to The World Health Report (2006), searching for an adequate standard of living is the root of decisions to migrate. By increasing of dissatisfaction with existing job or living conditions, workers' concerns about lack of career prospects, poor management, work overload, poor living conditions and high levels of violence and crime are among the push factors for migration. Prospects for better welfare, gaining experience, a safer environment and family-related matters are among the pull factors for migration.

Some previous research studies have included factors of demographic such as gender and age to be important in explaining the migrant intention of engineers (Dalen, Groenewold, & Schoorl, 2004). The behaviour of migration intention predicted varies for the different marital status, gender, educational level and working condition (Gubhaju & Jong, 2009). According to Record & Mohiddin (2006), the costs of the brain drain are perceived as being much greater than gains. The costs include loss of public educational investment, intellectual capital and

understaffing of services (Sahay & Srivastava, 2005). In addition, source country not only lose out on the investment of training education for local skilled workers, but also have to bear out the high cost for hiring foreign consultants to meet the need of specific development (Naim & Iftikhar, 2010).

It is not just economic, social and political progress that Malaysia lost. Malaysian abroad attitudes toward Malaysia shape on how others view the country, willingness of foreigners to invest, travel or collaborate with Malaysia and Malaysian interests. Therefore, the reduction of brain drain can improve the image and reputation of Malaysia. In line with the transformation of Malaysia to developed nation status amongst the industrialized countries by the year 2020, this study will investigate the factors that will influence the intention of engineers in Penang to leave their native country. This study examines the relationship between migrant intention of professional engineers with five factors, namely job pay satisfaction, job satisfaction, social welfare, employee engagement and human security. Besides, contextual factors that might influence migrant intention of engineers, such as demographics, will be incorporated too. Hence this study intends to: determine the relationship between six influencing factors, i.e. job pay satisfaction, job satisfaction, job engagement, organizational engagement, social welfare, and human security, on migrant intention of engineers; determine the level of intention of engineers in Penang to leave their native country.

Empirical researches on brain drain issue have primarily focus on the effects, consequences, and factors of human capital flight from developing countries. However, there have been very few research and studies on

the causes of brain drain in Malaysia and in particular the engineering professionals are almost non-existent. None focused on the migrant intention of professional engineers in Penang to obtain their views on why they intent to leave and their expectations. Migrant intention of Penang engineers is ambiguous due to the absence of prior studies. As highly skilled engineers appears to become more important to the country economy, the increasing professional-skilled migration which can be represented by other word called “skills shortages” is leading to a growing interest in the determinants and characteristics of professional-skilled migration. Many developed countries have selectively opened their labor markets for specialist skilled immigrants (Regets, 2007).

This study evaluates the human resource practices that can be used to maximize the productivity and development by decreasing the migrant intention. The globalization and increasing interconnectedness of the world has serious consequences for every nation (Singh & Papa, 2010).

Migrant Intention of Engineer

Migration is one of the most enduring features of human experience (Wongboonsin, 2004). The migration is not limited to skilled workers but also affects professional workers. The developing countries often related with industrial dependency and do not yet possess the methods of analysis services and research which are the greatest users of engineers (Essam and Gillian, 1986). The professional workers choose to migrate as a form of human capital investment by migrating to places where they believe their ability and skills can be improved and rewarded (Gubhaju & Jong, 2009). Migration intention does not necessarily lead to actual migration, but it can be used to forecast the fu-

ture emigration trends (Grecic, 2002). In general, migrant intention having relatively finding a high income job to achieve a higher living standard and modern values compared to those not intent to migrate (Hendrik, et. al., 2004). According to Giorgi & Pellizzari (2009), high salaries and high job opportunities, rather than the welfare are the key driving forces of migrant intention.

Push and Pull Factors Theory

Empirical researchers have found a set of relatively consistent factors that push people migrate overseas and pull them immigrate into the developed countries. The people will leave when their needs can no longer be fulfilled in a particular environment (Mahroum, 1999). Push and pull factors be able to operate simultaneously which the people can be pushed by environmental descent and pulled by the economic opportunities in destination country (Martens & Hall, 2000). By the way, mostly the people who are high professional qualifications and working experience move under the influence of attractive factors or pull factors (Todisco, Brandi, & Tattolo, 2003).

According to Gungor and Tansel (2007), those several characteristics originate from the environment of the native country are the push factors that motivate individuals' intent to migrate abroad. In many cases, brain drain is caused by the individual choice that influences the final decision. Based on the research of Loewenson & Thompson (2005) push and pull factors are interacting each other. No matter how strong the pull factors from the destination countries, the migration decision was made only if there are strong push factors in the native country. Push factors included poor working conditions, low job satisfaction, security issues, lack of career advancement, poor skill

of resources management, low salary structures and social capital; while pull factors are included higher salaries, competitive job environment, health facilities for family and access to better education (Naim & Iftikhar, 2010). This study evaluates the strength of push and pull factor in stating migrant intention 'out of Malaysia'. Dovlo (2003) states that push factors occur within the native country which motivate professionals to leave. Meanwhile, pull factors are the intentional or not deliberate actions that attract highly skilled individuals from the destination country's policies and actions. According to Grecic (2002), economy instability is one of push factors for the departure of professionals to work elsewhere.

Job Pay Satisfaction

Empirical studies reported the major cause of the brain drain among professional is the job pay satisfaction. Job pay is the determinant of the skilled workers migrate (World Bank, 2011). Economic efficiency in the global labor market and economic transformations resulting from the IT revolution has created a tremendous surge in demand of services and skilled labor and knowledge-based human capital (Rudolph, 2003). According to Zweig (1997), the lower job pay and lack of economic freedom in native country, along with a poor intellectual atmosphere are the push factors to motivate people to move out. To account for the financial aspect of the migration decision, the attractive income level as a pull factor in destination country was statistically significant (Gungor & Tansel, 2005). For those professional workers, low job pay levels and benefits provide a powerful incentive to migrate overseas (World Bank, 2011).

Job Satisfaction

Job satisfaction will affect the performance of workplace productivity and the workers' well-being (Pouria, 2011). According to Hemmans (2010), focusing on innovative ways to promote job satisfaction can have a positive retention between professional and their current employer rather than except a higher salary offer from another organization. Lack of job satisfaction will open to movement and migration (Loewenson & Thompson, 2005). According to Alam and Mohammad (2009), satisfaction with the job is either directly or indirectly related to an employee's turnover intentions. Businesses need to know the level of satisfaction of their employees with the purpose of retention, and strength the quality of their services (Pouria, 2011). Pouria (2011) also stated that understanding the feeling of people about their employment which refer to their values, backgrounds and cultures will provide better idea for highly skilled workers retention. Thus, job satisfaction potential to influence engineer's attitudes, intentions and behaviours in an engineering work force.

Social Welfare

According to Dustmann and Preston (2007), social welfare is the main key to play the relevant role in determination of attitudes to further migration. There was a strong association of highly education with attitudes to social welfare. The international migratory flows of the highly skilled were significantly when there were large gaps in living standards between the origin and the destination countries (Helliwell, 1999). Social welfare is acting as "pulls" (Frey, Liaw, Carlson, & Xie, 1996). Razin & Sadka (1999), states that pension system is the system which em-

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employs payroll taxes on the younger workers with the purpose of funding a uniform demogrant to the aged. The pay-as-you-go tax-transfer system, which is the government, pays social security benefit paid to old generation by tariff a flat tax on the income of the young generation (Razin & Sand, 2009).

Job Engagement

According to Schaufeli, Salanova, Gonzalez-Roma and Bakker (2001), engaged employees will be more active and effective connection with their job, and also responsibility to deal completely with the weight of their job. Job engagement is an encouraging, satisfying, work related state of mind (Bakker & Demerouti, 2008). According to Kirkpatrick (2006), job engagement defined as a work attitude for those employees' interest in, enthusiasm for and investment in their job. Empirical studies of job engagement in various sectors show that it is related to employee retention (Brown, 1996; Huselid & Day, 1991), and understanding the concept of motivation from job engagement will benefit both employees and employers (Kirkpatrick, 2006). For those who are overload in their work will have higher tendency to quit their jobs (Barak, et al., 2006). Saks (2006) found that engaged employees likely have more positive mind-set and retention toward the organization.

Organizational Engagement

Engagement is an important variable of interest to organizations (Avery, McKay, & Wilson, 2007). As noted by Robinson, Perryman and Hayday (2004), organization engagement defined as organizational commitment and organizational citizenship behaviour. Well-being and employees in the workplace is a significant part of an individual's life. Based on 2003 Towers Perrin Tal-

ent Report, employee's positive emotions are strongly influenced by the collaboration, teamwork and goals sharing including the objective in work. A two-way communication program can emphasize the positive emotions among employees in an organization. By the engagement, the cost of production tends to be drop.

Moreover, few researchers had study measurements of employee well-being to business unit outcomes, such as employee turnover. For those lack a sense of inclusion, the employee will dissatisfy with their position and feeling less committed to the organization (Barak, et al., 2006). Emotional well-being of employees and their satisfaction with their organization affect citizenship at work, turnover rates, and performance ratings (Harter, Schmidt, & Hayes, 2002).

Human Security

According to Akaha and Vassilieva (2005), migration is critical to attain and protect human security, although human security may be at risk while they are migrating. Human security cover minimum survival requirements and basic psychological needs, socioeconomic and political well-being that enables people to move towards positive development on a sustained basis, and the protection of human basic freedoms such as freedom from fear and freedom of opinion that are the heart of life (Wongboonsin, 2004). In fact, a stable economic environment is necessary for attracting investment and sustaining economic growth.

Furthermore, when citizens worry about their personal security or whether they will suffer for freely expressing their opinions, their overall wellbeing is diminished (Legatum Institute, 2010). Social issues such as the high crime rate serve as push factors to

move overseas (Erasmus & Breier, 2009). Violence and lack of human security may reduce the sources of income with disability, low job security and safe passage to work (Diprose, 2008). Wongboonsin (2004) discovered that human security is one of the causes of migrant intention. In developed countries, the needs for educated human capital are increasing to vary for the demographic evolution (Naim & Iftikhar, 2010). Most of the emigrants are young, whereas the older one is less likely to emigrate (Dalen, et al., 2004). Age is one of universal factors in people's desire to migrate (Esipova, Ray, & Srinivasan, 2010).

Gender is another key dimension of migration patterns and cross-cut by other variable like marital status (Dalen, et al., 2004; Gubhaju & Jong, 2009). For women, the decision to migrate is according to the household needs instead of commit to individual advancement (Gubhaju & Jong, 2009). Education is a significant effect on the migrant intention which the influence on the intentions of those highly educated respondents is twice as large as the intention of those with lower educated individual (Dalen, et al., 2004). For those highly educated workers, they are more likely to leave compared to other because they have more employment options available. Hence, those people with higher education are the most likely intent to migrate (Esipova, et al., 2010).

Research Methodology

This research study used a quantitative method to measure the independent and dependent variables examined by this research study. A cross-sectional study was conducted using mail questionnaire because of its advantage of covering wide geographical area with less time and cost (Sekaran, 2003). The population of this

study consists of Electrical and Electronic (E&E) manufacturing firms which cover both island and mainland area in Penang. E&E manufacturing firms were selected because E&E industry is one of 12 National key Economic Areas (NKEA) which is a potential driver to make a quantifiable amount of contribution to the Malaysian economic growth (PEMANDU, 2011). In this study, the sampling frame represents professional engineers of manufacturing firms in Penang. Based on the Danish Trade Council directory, the estimated number of engineers in E&E industry in Penang is 8766 engineers in 2005. Sekaran (2003) suggested that a sample size of 368 is appropriate for a population of 9000. The sample of E&E engineers were selected using purposive and convenience sampling techniques respectively.

Conclusions

Today, brain drain issues receive primary level of attention at nation level. The attention raises questions concerning to integrate brain drain in country economy transformation to become a high-income nation. Effective integration not only expected to help in generating significant benefits to business organizations, but also will help the nation's economic sustainability by accumulating human capital stock. For Malaysia to fulfil its vision to become a high-income economy by 2020, it will be important to give insights about the underlying factors that lie at the heart of individuals' migration decisions (World Bank, 2011). In the 21st Century, there is an explosion of higher education enrolment in Malaysia. As a result, there will be increase expectation for getting higher living standards, which will prompt many more engineers in Malaysia intent to search better opportunities in overseas for their living

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standards expectations. To be sure, understanding these global movements of engineers will be of particular interest to those involved in policy formation at the national levels.

The findings of the study support job engagement and organizational engagement are negatively correlated to migrant intention. Hence, decreasing employee engagement in an organization can lead to turnover of professional engineers and migrate overseas that may affect the core competencies of an organization and country, and its able to sustain competitive in the global labour market. On the other hand, job

pay satisfaction, human security, social welfare and job satisfaction were found to be not significantly affecting the migrant intention of professional engineers in Penang. Another finding is that the level of migrant intention among professional engineers in Penang is moderate. The level of migrant intention could be used as a predictor of future behaviour of brain drain in Malaysia. Further efforts are required to address the brain drain. Lastly, it is hope that this study could be serves as a preliminary insight on the migrant intention of professional engineers in Penang.

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TOURISM PLANNING AND PRACTICES OF MALAYSIAN LOCAL AUTHORITIES

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Abstract

This article seeks to assess the extent to which Malaysian local authorities integrate tourism planning and practices with their local strategic planning and also to identify the challenges faced in integrating tourism development into their strategic activities. Using the survey method, 99 local authorities in Peninsular Malaysia were sampled. The results revealed that although local authorities were aware of the tourism activities in their areas, almost half did not have a specific tourism plan, lacked a funding allocation for tourism development, and did not have any plan to promote tourism products and services. Additionally, most of the local authorities engaged exclusively with government agencies, such as the State Action Tourism Council and Ministry of Tourism, on tourism planning and programs, largely ignoring local stakeholders. The main obstacles to integrating tourism in their planning process were high costs, time constraints, and lack of expertise in tourism marketing and promotion.

Key Words: Tourism Planning, Local Authorities, Malaysia, Tourism Policy, Tourism Development, Developing Countries

Introduction

Over the last decade, international tourism has grown significantly, generating about 5 per cent of world GDP (UNWTP 2011). So much so that many countries now consider the tourism industry a major contributor to their economic and social development. Malaysia is one of those countries, and recently identified tourism as a driver of economic activity and social de-

velopment. Tourism activity has grown tremendously in the last twenty years, even though Malaysia has only recently prioritized it as a strategic industry (Hamzah, 2004), based on its tropical location in Southeast Asia and cultural attractions. The government has played an important role in stimulating the development of the tourism industry. In its 10th Malaysian Plan (GOM, 2011), significant attention was given to the tourism sector, which

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aimed to improve Malaysia's position to be the top 10 in terms of global tourism receipts, and increase the sector's contribution by 2.1 times, contributing RM115 billion in receipts and providing two million jobs in the industry by 2015. There is broad awareness that tourism is now one of the leading industries in Malaysia; it's the second major contributor to Malaysia's Gross Domestic Product (GDP) after manufacturing.

Over the last 10 years, tourism in Malaysia has experienced impressive growth. From the 2000 to 2002 the number of tourist arrival rose steadily, from 10.2 to 13.3 million. However, in 2003 the number of *tourist arrivals* declined for the first time due to the outbreak of Severe Acute Respiratory Syndrome (SARS). The following year showed 48% *growth* with *tourist arrivals* in 2004 reaching 14.7 million.

According to the United Nations World Tourism Organization (UNWTO) rating, Malaysia was the ninth *most visited country in the world from 2009 to 2011*. In 2010, it reported Malaysia to be one of the top two most popular tourist destinations in the ASEAN and the Pacific regions. This report reflects the tremendous achievement of the tourism industry in Malaysia. Malaysia's tourism planning and development is centralized under the federal Ministry of Tourism and Culture Malaysia. This ministry is responsible for formulating national tourism policies and coordinating tourism projects and activities. Achieving these aims requires integration of role and function between the Ministry of Tourism and Culture Malaysia and the Ministry of Urban Wellbeing, Housing and Local Government, which supports national tourism development through its responsibility for planning and

development in Malaysia. The Town and Country Planning Department of the ministry is charged with coordinating the physical development of the country.

As such, the national physical development plan should be coordinated and integrated with the national tourism policy of Malaysia. Furthermore, in 2002 the government established a State Action Council under the Ministry of Tourism and Culture Malaysia to link and coordinate tourism activities between the federal and state governments (Hamzah, 2004).

However, the focus of Ministry of Urban Wellbeing, Housing and Local Government is to improve the quality of a sustainable environment and improve the wellbeing of the community in line with the national vision. Its main functions are to provide affordable housing, to assist and guide local authorities in providing quality municipal services, social and recreational facilities, to ensure the safety of public life and property, to advise the federal and state governments on planning, management, development and soil conservation, to manage the development of landscaping, parks and quality recreational facilities, and to develop and regulate the activities of moneylenders and pawnbrokers. Under this matter, the local authority is placed under the coordination and management of the Ministry of Urban Wellbeing, Housing and Local Government.

In local tourism development, the local authority often takes a prominent *role* in its jurisdiction area. A considerable amount of literature has been published on describing the role of a local authority in developing and planning for the tourism industry and these findings identified that a local authority plays a significant role in

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the planning, formulating and coordination of tourism strategy in transforming national tourism development. They are responsible for establishing local tourism strategy and policies, providing infrastructure, integrating the participation of business sectors and local community, including promoting the local tourism industry (Bacon & Palley, 1993; Javier & Elazigue, 2011; Vaughan, Jolley and Mehrer, 1999).

Given the different political, social, and economic development environment, Malaysian local authorities face unique challenges and problems in developing their local tourism industry. As most studies on the role of a local authority in tourism development have been carried out in Europe, or Australia and New Zealand, limited research has explored the tourism development and planning and practices of local authorities in Malaysia. Hence the first objective of this research was to determine the extent to which local authorities integrate their tourism planning and practices with their local strategic planning. The second was to identify the level of stakeholder engagement in tourism activities, and the third objective was to identify the challenges of integrating tourism development in their strategic development activities.

The Structure of Malaysian Local Authority

Malaysia has a three level administration system, consisting of a federal government, state governments, and local governments, known as local authorities. The federal government administers and manages the development of a whole country, which largely covers the direction and management of land policies, the five-year development plans (socioeconomic devel-

opment plans i.e. Malaysia Plan), and the physical plans used across the country as a national framework. The state government interprets the federal plans into a state requirements and policies framework, then cascades these down to the local level for its specific area and development plans.

The local authority is the third tier in the administrative hierarchy of the Federal Government. A local authority outside the Federal Territory is under the authority of the State Government. According to the *Local Government Act 171* (TCP Act 1976, 2006), *three types of local authority exist: local government for a city area (City Council known as Majlis Bandaraya), an urban area (Municipalities Council known as Majlis Perbandaran), and a rural area (District Council known as Majlis Daerah)*. All three local authority categories have specific criteria that were approved by the National Council for Local Government on June 3, 2008. In general, local authorities are responsible for planning, coordinating, and controlling the use and development of land, and building activities in their area. While article 95A of the Federal Constitution provides for the establishment of the National Council for Local Government, which formulates national policies to promote, develop, and control the local government, the State reserves the right to accept or reject the regulations. This means that a rule cannot be implemented without the consent of the state government.

As the main purpose of local authorities is to provide opportunities to the local people or to take part in the management of the area, they can be a catalyst for cooperation between the local people and government. In addition, they can also ensure that decisions affecting the local citizens can be

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made quickly and in line with their needs or requirements. Local authorities are empowered to provide municipal services, control the development of land, make local laws and conduct local planning.

Research Methodology

A questionnaire mail survey was used in this study. The questionnaire explored the current status of the process of tourism strategic planning and development in local authorities in Malaysia, and was based on data from the focus groups that was conducted with local authorities and adapted materials from Connell et al. (2009), and Vandegaer et al. (2002)

The questionnaire contained four sections, beginning with demographic information on type of local authority, and respondents' background in terms of age, education, position, department, and work experience. The second section consisted of six questions concerning the implementation of local agenda 21 program. The third section had four questions designed to assess sustainable development strategy. The fourth section of 10 questions evaluated the local authority perception of tourism development. A pilot test was undertaken to verify the validity and clarity of the survey questions in November 2011 with officers in tourism development and planning at three municipalities. In December 2011, a self-complete questionnaire survey was mailed to Strategic and Planning Officers, responsible for strategic tourism development processes, in 99 local authorities in Peninsular Malaysia. The population comprised of 34 Municipality Councils (Majlis Perbandaran), 8 City Councils (Majlis Bandaraya), and 57 District Councils (Majlis Daerah). Following a reminder email three weeks later, 44 completed and

usable questionnaires were returned, giving a response rate of 44%. The data were analysed through simple percentages.

Findings

More than half of the survey respondents were from District Councils, while about one third were from Municipality Councils and almost 10% were from City Councils. The results reflected a total number of different local authorities across country. The designation of respondents were widely diverse, consisting of city /town planning officer, administrative officer, public relation officer and a small number identifying with "others" officer. In regards to the age of survey respondents, almost half (42%) were between the age of 25 and 35, followed by those between 36 and 45. Only 20 % were above 45 and about 5% under 25. The work experience of the respondents were widely diverse, with the majority of respondents reporting 11 to 20 years of work experience, and only minority (20%) had about 6 to 10 years of work experience.

Tourism Activities, Policies, Funding Allocation and Promotion Activities

This section details the current responsibilities undertaken by the local authorities engaged in tourism development, and the contribution of their local activities to the development of tourism (see Table 5). The response to the first question, whether they have tourism activities in their area, was that the majority, 96% of respondents, indicated that they had tourism development activities; only 4% do not have any tourism development activities.

Furthermore, respondents were asked to specify whether they had formulated spe-

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cific policies on tourism development and the allocation of tourism funding. Although the majority of respondents had tourism development activities, only 44% of respondents said they had policies to related tourism development. Given most local authorities did not have any specific policies related to tourism development, not surprisingly, less than half, 42% had specific provisions for tourism development.

Furthermore, respondents were also asked to specify whether they had any plans to promote tourism products and services in their area. Quite surprisingly, more than half (55%) of the respondents reported having planned to introduce tourism products and services.

Tourism Products and Services in Local Authorities

Given the wide range of possible tourism activities in Malaysia, respondents were asked to identify the tourism activities and products in their areas. The results showed that the most popular products and services were adventure tourism (68.9%), agriculture tourism and heritage tourism (67.7% each), followed by river and lake tourism (59%). Other prominent products and services of interest were art galleries attractions (45%), geographical wonders (44.4%), and sport tourism (42.2%). Finally, beach and island tourism at (31.1%), aboriginal tourism (31.1%), and national/state parks tourism (31.1%).

Stakeholders Engaged in Tourism Agenda and Strategic Plans

Respondents were also asked to identify the stakeholders that initiate and engage in ongoing dialogue with local authorities on

tourism and strategic plan development. This finding provided an opportunity to identify the active stakeholders who influence policies, plans, and programmes. Local authorities conducted dialogue and discussed tourism development with related government agencies responsible for tourism. The state tourism council was the most active party (73.3%), followed by the ministry of tourism (62.2%), hotel associations (44.5%) and heritage associations (44.5%).

The Main Challenges in Integrating Tourism in the Planning of the Local Authority

Bound by their official functions, local authorities focus on planning and coordinating the use and development of land, and building activities in their jurisdiction area. The last question provided an opportunity for local authorities to identify the main challenges in combining tourism in their planning processes. As presented in Table 8, various challenges face the local authorities in integrating tourism in their planning processes.

Specifically, the vast majority (72%) of respondents identified high costs as the most challenging factor in combining tourism in the planning process. Most local authorities also found time constraints (57%), and lack of expertise in tourism marketing programmes (55%) to be key challenges. Local authorities noted other factors that substantially influenced the challenge of tourism planning, such as a lack of understanding between the stakeholders to develop tourism programmes, the lack of involvement of local communities in the tourism planning process, and the lack of awareness of the benefits of tourism development in the management area. However, the majority of respondents

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did not feel that tourism was an important contributor to their organisation, and did not consider tourism in the planning process.

Discussion

Tourism development plays an important role in the socio-economic development of Malaysia. The sector has contributed to economic growth and employment opportunities. Given the importance of the tourism sector, Malaysia has undertaken a pro-economic development approach to tourism policy, with heavy emphasis on marketing and promotion of tourism (Beaumont & Dredge, 2010). The government has encouraged the integration of tourism policies and strategies in the economic planning of the country and outlined tourism development zones in the National Physical Plan of Malaysia.

Moreover, tourism was identified as one of the key economic growth areas in the economic transformation program (ETP) of the country, launched in 2010. Its objective was to ensure Malaysia's ranking as a leading tourism destination and develop an industry contributing to the economic growth of the country. The transformation program required close partnership between Ministry of Tourism, the local government, other governmental agencies, and the private sectors.

The local authority, as the implementing agency, was poised to play a central role in ensuring tourism development in the country. Activities that have major impact on tourism growth, such as licensing of businesses, planning approvals and zoning areas are under their controls (ICLEI, 2003). Thus, the integration of tourism in development planning and strategies of local

authorities was crucial to achieve the aims of the country's tourism policies. To meet this challenge, local authorities were called on to play a more proactive role in the tourism development by the federal ministry, through its "Think Tourism, Act Tourism" efforts (Hamzah, 2004).

However, the results of this survey showed the widespread failure by local authorities to prioritise or consider tourism development in their strategic planning, despite the existence of tourism activities and products and services in their areas of jurisdiction. More than half the local authorities identified tourism offerings of adventure, agriculture, and heritage tourism in their area, and almost one third identified other forms of tourism, such as art galleries, geographical wonders, sports tourism, beach and island, indigenous tourism, and national and state parks.

Despite Malaysia's natural advantages and various tourism attractions, less than half of the local authorities had formulated specific policies related to tourism development or specific budget provisions to ensure tourism development in their area. This suggests that local authorities did not consider tourism development as their responsibility. A reason for the lack of tourism policy might be because of the limited role of local authorities in Malaysia (mandatory roles of local authorities in Malaysia are provision and maintenance of urban services), as compared with other countries. Tourism development, which is not part of their mandatory function, might not be considered a main priority. Nevertheless, local authorities in Malaysia do face pressure to expand their role from the main mandatory functions to include development planning and control, the promotion of tourism development, and infrastructure

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facilities to support this development (UNESCAP n.d.).

However, it seems that half of the local authorities surveyed have not responded to the pressure, as only 55% of local authorities planned to promote tourism products and services and only 42% had specific funding allocation for tourism development. The absence of specific tourism policies at a local level is also worrying. Malaysia has formulated tourism policies in its socio-economic plans and also in the various central planning programmes. However, the realisation of this policy rests, to a large extent, with local authorities, the implementing agency. Thus, as more than half of the local authorities' surveyed did not have a policy related to tourism development, then the integration of the national tourism policy and plans from the central to the local level seems to be problematic.

Local authorities are in a unique position to secure tourism development in their area, given their mediating role among the various stakeholders in tourism, according to International Council for Local Environmental Initiatives (ICLEI) (2003, p. 8), "Local authorities are often the best placed organisations for establishing a sustainable approach to tourism in destinations, setting a strategy and balancing the interests of tourism enterprises, tourists and local residents."

Thus, engagement with various stakeholders, especially with the industry and the community, is required. The survey results showed that local authorities' dialogues were mainly with other governmental agencies. Nearly 74% of those surveyed had dialogue with the state tourism offices, and 62% were with the Ministry of Tour-

ism. This is not surprising given that the state tourism office is the link between the state and federal governments on tourism matters.

However, limited engagement occurred with other key stakeholders, such as the hotel associations and heritage associations, and less than a quarter had dialogues with the other industry players. Thus, the key activities required to ensure sustainability of the tourism industry were not undertaken. As highlighted in an ICLEI report (2003, p. 14), to ensure successful tourism strategy and action plans, local authorities should undertake the following:

- Establishing effective structures for multi-stakeholder participation, both in setting the direction for tourism in the community and in working together to develop and manage it.
- Identifying a strategy for sustainable tourism within the context of a wider sustainable development strategy that reflects stakeholders' views, and that allows tourism management to be integrated with other management functions in the destination.
- Identifying and implementing a set of actions, in line with the strategy, that address the economic, social and environmental sustainability of tourism in the area.

Engagement with the key stakeholders is vital to ensure the tourism industry continues to be sustainable. The survey results showed that only government departments were engaged by the local authorities on tourism agenda and strategic plan development. There were limited engagements with other parties. There were various

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challenges that the local authorities faced in integrating sustainable tourism in their planning process. Most of the local authorities identified high cost as the main challenges, and in view of the weak financial position of local authorities, especially the districts councils (UNESCAP, n.d.), tourism was not seen as the key focus due to the perceived high development costs involved. Consequently, more than half of the local authorities surveyed did not have specific provision for tourism activities.

Funding is essential to allow better development of services and in improving and maintaining tourism facilities. For local authorities with a weak financial position, tourism was seen as secondary since the activities prioritised were the provision of public facilities and services to the local community. Moreover, local authorities do not gain direct benefits from tourism revenues, since sales and service taxes, the main source of tourism revenue are collected by the central government (Hamzah, 2004). Thus, it was not surprising that some of the local authorities stated that lack of awareness of the benefits of tourism was a major challenge. Even more discouraging, was that 24% of the local authorities stated that tourism was not seen as an important contributor to their organisation.

Besides high costs, the other challenges faced by local authorities were time constraints and lack of expertise in managing and promoting tourism programmes. These challenges may be due to two interrelated issues, i.e., weak financial position of the local authorities and the too little focus given to tourism development which hindered training of the local managers or obtaining personnel with the expertise in tourism development. The lack of com-

munity participation and understanding between stakeholders involved was identified by the local authorities. This is similar to the argument by Tosun (2000), who noted that the engagement process in developing countries was problematic. A possible reason may be that limited engagement in the planning process in Malaysia was more widespread than just tourism development.

Conclusions

Most of the local authorities in Malaysia still maintain a tradition role, limited to the provision and maintenance of urban services, and have not expanded their area of responsibility to include tourism development. Despite the country's reliance on tourism products and services, almost half of the local authorities had not incorporated tourism into their planning processes, allocated specific funding for tourism development, or planned to promote in tourism development. The main impediments to integrating tourism into their plans and activities were cost constraints, lack of expertise in tourism planning and promotion, and lack of awareness of the benefits to be gained from the tourism development. Furthermore, the results showed that there was limited engagement with other external (non-government) tourism stakeholders.

Lack of community participation and lack of understanding between stakeholders involved in the promotion of tourism programmes were identified challenges. The findings clearly showed that local authorities still do not acknowledge the major role they play in tourism programmes. If the local authorities are to take a central role in planning and take on responsibilities for tourism projects, beyond their existing role

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of maintaining facilities and infrastructure, sustainable tourism industry that contributes to the socio-economic development of the country is dependent on better integration of tourism into local authority planning and development programmes.

these challenges need to be addressed. A

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MARKET STRUCTURE AND COMPETITION: ASSESSMENT OF
MALAYSIAN PHARMACEUTICAL INDUSTRY BASED ON THE
MODIFIED STRUCTURE - CONDUCT - PERFORMANCE PARADIGM

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Abstract

This study assesses the market structure and competitiveness of Malaysian pharmaceutical industry. A panel analysis on 41 pharmaceutical manufacturing firms over 2004-2012 is conducted based on the modified Structure-Conduct-Performance (SCP) framework. Our study reveals that the Malaysian pharmaceutical industry is highly concentrated (oligopoly) and the major findings are threefold. First, anti-competitive practices subsist among the pharmaceutical firms. Major players may have greater control over the markets and potentially colluded to gain better profits. Second, selling intensity is evident to raise the firms' business performance, suggesting that advertisement, marketing campaigns, product differentiations and distribution efforts could be effective in building competencies. Third, the study has tackled the endogeneity problem of conventional SCP with dual causal effects found between capital intensity and return on assets. It is recommended to further examine the pricing behaviour of pharmaceutical products and services. Some necessary measures are needed to sustain healthier competition in the pharmaceutical sector to defend public welfare.

Key Words: Modified Structure-Conduct-Performance, Pharmaceutical Industry, Competition, Panel Regression, Panel Causality

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Introduction

The Pharmaceutical Industry is of strategic importance for the development of health care sector with high potential growth in both global and local platforms due to its relation with the public welfare and wellbeing. In Malaysia, the production, imports and sales of pharmaceuticals including traditional medicines are regulated by Ministry of Health. There are currently 251 manufacturers licensed by the Drug Control Authority (NPCB, 2013). Of these, only 74 are licensed to produce pharmaceuticals including for veterinary and OTC external while the remaining of 177 manufacturers licensed to produce traditional medicines (MOPI, 2013).

At present stage, there are no policies to regulate medicines pricing as Malaysia practices 'free-market economics' where manufacturers, distributors and retailers are free to set their own prices without government control (Babar et. al., 2007). Nevertheless, complaints arise from industry players as there are anti-competitive practices along the pharmaceutical supply chain. Some of the big buyers get their products at an extremely low price and sell to the public with only small markup in the short run, causing the small pharmacies with sole ownership losing competency. Further, dominant multinational pharmaceutical manufacturers solely sell the higher dose of certain medicines to clinics, although it is an over-the-counter product and that is anti-competitive practices (NST, 2011). Manipulations in prices are also found among different sectors and geographical areas, for instance the high price variations are observed for some identical products in private pharmacies and dispensing doctors' clinics (Babar et. al., 2007).

Persisting of anti-competitiveness issues in the pharmaceutical market may form unfair competition which creates barriers for the existing small and medium size manufacturers to compete with the big players. This scenario may demotivate them from investing and expanding their business while it is hard for new players to enter this industry. This unhealthy condition can retard economic development and growth in the pharmaceutical industry. In addition, without proper regulation it is foreseen once the small players lost their battles, big players will look for instant elevated profits with high mark-ups (Free Malaysia Today, 2012). Such move will drive up the medicines price by sellers and make medicines less affordable to people in need especially those at the bottom millions. The implication on both economic development and public welfare should alert the regulatory authority to impose and enforce the law to promote a vigorous and healthy competition within the pharmaceutical industry. In order for the implementation of enforcement law to be effected, a thorough and in depth study is required to examine the current market structure of the pharmaceutical industry, and the firms' business behaviour in achieving their profitability.

The most commonly used model to tackle such issues is the Structure- Conduct-Performance (SCP) paradigm. SCP is one of the structural approaches which was derived from neoclassical analysis of market competition and originally used by the US government in crafting antitrust regulations (Shaik, et. al, 2009). There is a strand of literature devoted to the discussion and testing of the modified SCP paradigm to study various industry structures. Nevertheless, the growing literature on SCP and market competition focuses on the developed countries, but very less attention has been paid to the

developing nations. And most of these studies spotlight on banking sector such as Athanasoglou et. al. (2006), Maniatis (2006), Mensi & Zouari (2011), Park (2012), Behname, (2012), Ferreira (2014), among others. Then, a few other studies such as Shaik, et. al. (2009) examined the trucking industry, Tung et. al (2010) studied the hotel industry in Taiwan, Ding, et. al (2011) employed modified SCP on the China automobile industry, and Lee (2012) explored the causal relationship of SCP on the CPA industry. Thus far, there are very limited studies on pharmaceutical industry in developing nations. Among the cited studies are Zhang, et al. (2009), Mishra & Chandra (2010), Mishra & Vikas (2010) and Vyas et al. (2012) but only studies by Mishra & Chandra (2010) and Mishra & Vikas (2010) are related to the SCP paradigm. Zhang, et al. (2009), for instance, surveyed the human resource perception on work practices and firm performance of pharmaceutical industry in China while Vyas, et al. (2012) scrutinized the determinants of merger and acquisition (M&A) in Indian pharmaceutical industry over 2001-2010 using logit analysis. A more relevant study by Mishra & Chandra (2010) over 52 Indian pharmaceutical companies revealed that firms with greater selling efforts were found to have significant and positive influences on firms' profitability. Higher expenses spent in the selling strategies such as advertising to disseminate the information and better reach to consumers will result in higher profit margin. Based on modified SCP, Mishra & Vikas (2010) assessed 176 pharmaceutical companies and, agreed that selling intensity is positively related with the firm profitability but firms' profitability also shows negative effect to the selling intensity. The finding implies two-way correlation between conduct and performance vari-

ables which in turns support the modified SCP paradigm.

To our best knowledge so far, there is no SCP related study being conducted in Malaysia to assess the market structure and business performance of pharmaceutical industry. Babar et. al (2007) did a comprehensive study on medicine prices and drug costs and their availability and affordability in Malaysia but did not assess the market structure and organization behaviour of the pharmaceutical industry. This paper therefore contributes as pioneer study that fills an important gap in existing literature that allows a better and updated analysis of the pharmaceutical industry dynamics, which demonstrates how exogenous structural changes feed into the competition process in Malaysia. This will help the Malaysian regulatory authorities to formulate policies that would improve and sustain healthy competition among the pharmaceutical players, and hence enhance the public welfare. This paper is structured into four sections follows: Section 2 presents the modified SCP theoretical framework and methodology applied, which include the three functional models, measurements of the variables and data used; Section 3 then discusses the empirical results; Section 4 concludes the paper.

Theoretical Framework and Methodology

The SCP framework is widely adopted to evaluate the competitive industries by investigating the structure of industry relates to the firm behaviours (conduct) and performance (Umar Mu'azu, 2013). But the unidirectional relationship of structure-conduct-performance in the traditional SCP entailed with endogeneity problem has raised many criticisms by economic theorists. With successive development in the industrial organization literature, the modified or modern

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SCP paradigm suggests dual or multi causalities exist between variables of market structure, business conduct and business performance. The interdependencies amongst these variables make them endogenous in nature (Sahoo & Mishra, 2012; Umar Mu'zu, 2013). Inclusion of public policies with relates to taxes, subsidies, international trade, investment and other terms is another important development in the modern SCP paradigm. The modified SCP which ad-

resses the shortcomings of traditional SCP is adopted as the key theory of the present research. However, assessment of public policies is not included in our analysis because the industry is far from being regulated and the 2010 Competition Act was only implemented since January 2012 that the impact is still unforeseen. Figure 1 depicts the modified SCP paradigm that shows multidirectional relationship among the variables.

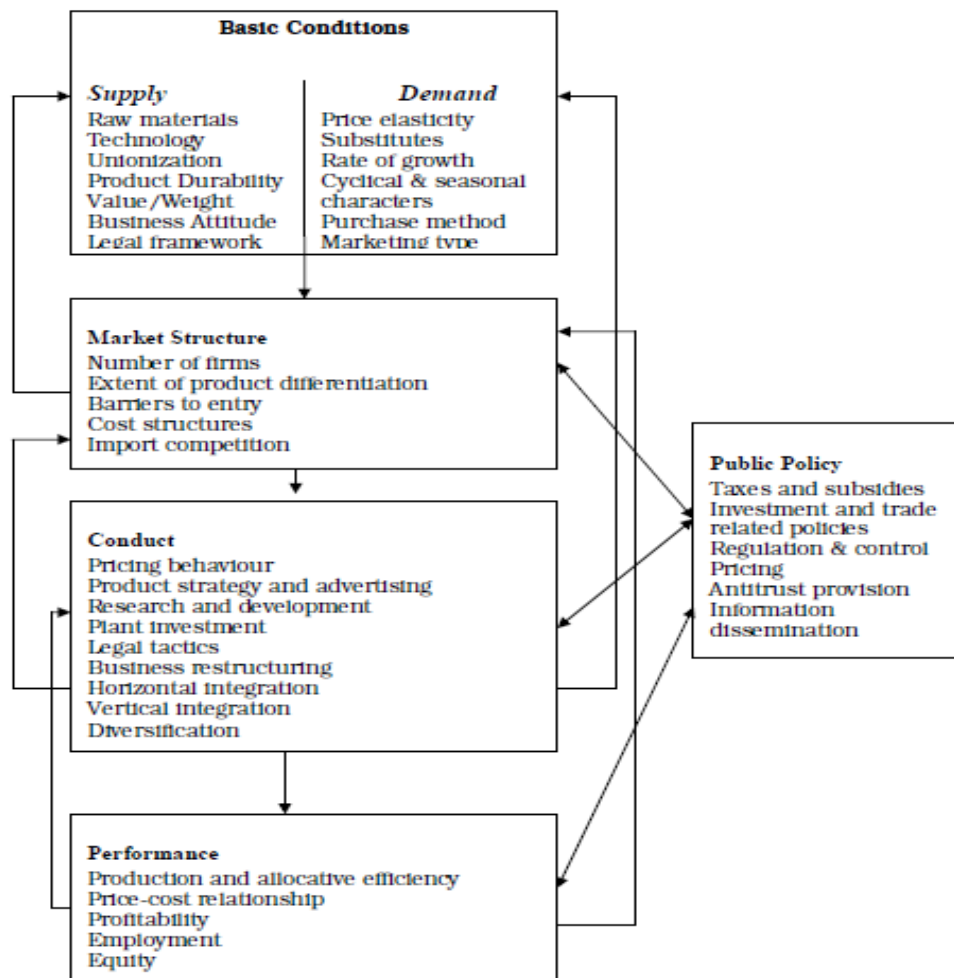


Figure 1. Modified Structure-Conduct-Performance-Policy Paradigm

Source: Reproduced from Mishra & Vikas (2010)

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Data

In this study, the three functional models specified in the next section are estimated with panel dataset of 41 pharmaceutical firms operating in Malaysia for the period of 2004-2012. These data are sourced from the firms' annual reports submitted to Company Commission of Malaysia (CCM). The data availability for the years of 2004, 2005, 2006 and 2012 are inconsistent, therefore, this study has to work with an unbalanced

panel data set for the period 2004-2012. The data are reviewed and crosschecked before relevant values are extracted and used for empirical analysis.

Measurement of Variables

Various measurements are being used in numerous SCP studies. This study adopts the measurements that are relevant and fit most to the research. Details of the variables are presented in Table 1.

Table 1. Definition and Measurement of Variables

SCP Elements	Variables	Definitions
Market Structure	$HHI = \sum_{i=1}^n SHARE_i^2$	where $SHARE_i$ is the market share of the i th pharmaceutical firm, and n is the total number of pharmaceutical firms for every year.
	$SHARE_{it} = \frac{REV_{it}}{\sum_{i=1}^n REV_{it}}$	where REV_{it} is the total sale revenues of the pharmaceutical firm i in year t and n is the total number of pharmaceutical firms for every year.
Business Conduct	$CAP_{it} = \frac{ASSETS_{it}}{REV_{it}}$	where $ASSETS_{it}$ is the total assets of the pharmaceutical firm i in year t and REV_{it} is the total sales revenues of the pharmaceutical firm i in year t .
	$SELL_{it} = \frac{SE_{it}}{REV_{it}}$	where SE_{it} is the total expenses for selling purpose (advertisement, marketing and distribution) of the i th pharmaceutical firm in year t and REV_{it} is the total revenues of the i th pharmaceutical firm in year t .
Business Performance	$ROS_{it} = \frac{PBIT_{it}}{REV_{it}}$	where $PBIT_{it}$ is the profit before interest and tax of the pharmaceutical firm i in year t and REV_{it} is the total sales revenues of the pharmaceutical firm i in year t .
	$ROA_{it} = \frac{PBIT_{it}}{ASSETS_{it}}$	where $PBIT_{it}$ is the profit before interests and taxes of the i th pharmaceutical firm in year t and $ASSET_{it}$ is the total assets of the i th pharmaceutical firm in year t .

Source: Reproduced and modified from Lee (2012), Sahoo & Mishra (2012) and Mishra & Vikas (2010).

Establishment of Functional Models

Modified SCP deals with multidirectional effects, thus all three elements of market structure, business conduct and business performance can act as dependent variables as well as independent variables respectively. The three equations and related variables that applied in the functional models can be rewritten as follows:

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- i) *Market structure*: $S_i = a_0 + a_1CAP_{it} + a_2SELL_{it} + a_3ROS_{it} + a_4ROA_{it} + e_1$
 where market structure (HHI, SHARE) is dependent variables and there are four independent variables in this model; $i = 1, 2$; $S_1 = HHI$, $S_2 = SHARE_{it}$; a_0 is the intercept; a_1, \dots, a_4 are the parameters of the regression model; e_1 is the error term.
- ii) *Firms' conduct*: $C_i = b_0 + b_1HHI + b_2SHARE_{it} + b_3ROS_{it} + b_4ROA_{it} + e_2$
 where business conduct (CAP, SELL) is dependent variable and there are four independent variables in this model; $i = 1, 2$; $C_1 = CAP_{it}$, $C_2 = SELL_{it}$; b_0 is the intercept; b_1, \dots, b_4 are the parameters of the regression model; e_2 is the error term.
- iii) *Firms' performance*: $P_i = c_0 + c_1HHI + c_2SHARE_{it} + c_3CAP_{it} + c_4SELL_{it} + e_3$
 where business performance (ROS, ROA) is the dependent variable and there are four independent variables in this model; $i = 1, 2$; $P_1 = ROS_{it}$, $P_2 = ROA_{it}$; c_0 is the intercept; c_1, \dots, c_4 are the parameters of the regression model; e_3 is the error term.

Empirical Results and Discussion

Classification of Market Structure

Following established literature, Herfindahl - Hirschman Index (HHI) is employed to measure the degree of market concentration in Malaysian pharmaceutical industry. Figure 1 depicts the HHI trend of 41 pharmaceutical firms over 2004-2012. Meanwhile, Table 2 classifies the market structure by HHI in accordance to the US Merger Guidelines. Apparently, the pharmaceutical manufacturing firms fall in the HHI range of 2240-2616 with an upward trend. This postulates a highly concentrated market (oligopoly) that may encourage dominant firms to collude through unofficial collaboration and thus weaken the market competition. A warning sign arises that the 2010 competition act failed to avert the HHI from growing. Such finding implies a low

consumer bargaining power that allows major firms to gain greater profits by charging higher prices of medical drugs and pharmaceutical products. The fact is also supported by Babar et. al. (2007)'s earlier argument that anti-competitive practices presence along the pharmaceutical supply chain, creating barriers for the small and medium size manufacturers to compete with the big players.

Tables 3, 4, and 5 demonstrate the panel regression of three SCP functional models. Each of these models employs two dependent variables to represent the SCP elements of market structure, business conduct and business performance. HHI and market share (SHARE) embody the market structure, capital intensity (CAP) and selling intensity (SELL) exemplify the business conduct, whereas return on sales (ROS) and return on assets (ROA) correspond to the business performance. Together, there will be six equations to be estimated.

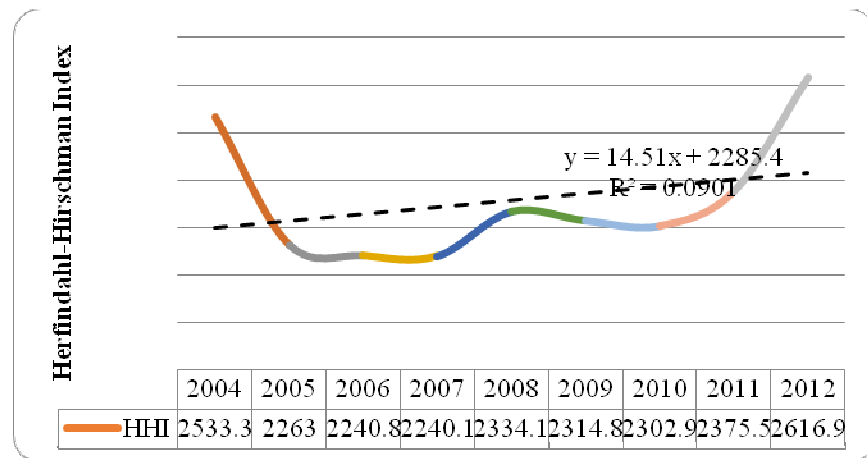


Figure 2. Degree of Market Concentration (HHI), 2004-2012

Source: own calculation based on annual reports' sales figures.

Table 2. Classification of Market Structure by HHI

Type of Market Structure	Range of HHI
Highly Competitive Market	HHI < 100
Low Concentration Market	HHI < 1000
Moderately Concentrated Market	$1000 \leq \text{HHI} < 1800$
Highly Concentrated market	$\text{HHI} \geq 1800$

Source: Adopted from Lu & Liu (2012), Ferreira (2014) and Tililayo and Victor (2014)

Before we proceed, a few scientific points are worth notified. First, R^2 has a very modest role in the panel regression. Neither is a high value of R^2 evidence in favour of a model nor is a low value of the R^2 evidence against it (Gujarati & Sangeetha, 2007; Sahoo & Mishra, 2012). Second, due to our panel dataset has greater N than T (cross sectional units > time series units), selection of an appropriate panel regression from two

alternative models namely the Fixed Effect (FE) model and Random Effect (RE) model is highly suggested in the literature. Hausman test is therefore conducted as diagnostic test and depicted in Table 3, 4, and 5. It is observed that the RE estimate of the cross section variance term is zero, so that there do not appear to be RE in all three functional models. Thus, null hypothesis is rejected and FE panel regression is more appropriate to be employed in this study.

Table 3. Functional Model of Market Structure (HHI and Market Share)

Independent ables	Vari-	Dependent Variable		
		HHI	SHARE	
Intercept		-4.16	(-0.67)	0.03 (69.15)***
HHI (-1)		1.75	(2.26)**	
HHI (-2)		-0.21	(-0.90)	
CAP _{it-1} (-1)		-0.00	(-1.64)	-0.00 (-0.07)
CAP _{it-2} (-2)		0.00	(1.51)	
SELL _{it-1} (-1)		0.01	(0.21)	0.00 (0.07)
SELL _{it-2} (-2)		-0.05	(-1.62)	
ROS _{it-1} (-1)		-0.02	(-1.87)*	-0.00 (-1.11)
ROS _{it-2} (-2)		0.01	(2.49)**	
ROA _{it-1} (-1)		0.00	(0.10)	0.01 (2.83)***
ROA _{it-2} (-2)		-0.03	(-1.26)	
<i>Diagnostic Tests</i>				
R ²		0.60		0.99
Adjusted R ²		0.51		0.99
F-Statistic		6.12		600.46
FE Statistic		0.25		650.49
Hausman χ^2		0.00		0.00
N		246		324

***, **, * Statistically significant at 1 percent, 5 percent, and 10 percent respectively. Reported in parentheses () are t-statistics.

Market structure equations report interesting results via Table 3. When HHI is treated as dependent variable, it is significantly affected by the lagged return on sales (ROS) but none of the business conduct variables (CAP, SELL) shows significant influence. Still, no direct or clear conclusion can be drawn due to the miniature and indecisive coefficients of negative ROS (-1) and positive ROS (-2).

When market share (SHARE) is taken as dependent variable, ROA coefficient is positive and significant but small in value (0.01), suggesting that pharmaceutical firms with

better financial performance specifically higher return on assets tend to raise their market share in the industry at small proportional rate. Other firms with lower financial performance may find it difficult to grow and the growth of market share creates some barriers for new entrants. Though the impact is small, the positive relationship is in line with the view of SCP literature (Mishra & Chandra, 2010; Lee, 2012). But again, the business conduct variables are absent from the direct effects on market share. In brief, the firms' business performance has some but minor impacts on the market structure of pharmaceutical industry.

Table 4. Functional Model of Business Conduct (CAP and SELL)

Independent Variables	Vari-	Dependent Variable	
		CAP	SELL
Intercept		329.05 (1.44)	1.81 (2.19)**
HHI		-41.53 (-1.43)	-0.22 (-2.11)**
SHARE		9.71 (0.67)	0.06 (0.76)
ROS		-2.40 (-2.66)***	-0.00 (-0.79)
ROA		-39.44 (-1.12)	-0.12 (-0.79)
<i>Diagnostic Tests</i>			
R ²		0.39	0.37
Adjusted R ²		0.30	0.27
F-Statistic		4.12	3.75
FE Statistic		1.09	3.77
Hausman χ^2		0.00	0.00
N		324	324

***, **, * Statistically significant at 1 percent, 5 percent, and 10 percent respectively. Reported in parentheses () are t-statistics.

The results of the business conduct equations are presented in Table 4. We observe that out of the two market structure variables (HHI, SHARE), only HHI shows negative and significant impact on SELL but not on CAP. This postulates that pharmaceutical firms in highly concentrated market tend to reduce the expenses on selling strategies. It is possible as higher concentration leads to less competition, causing complacent among the major firms and they feel unnecessary to invest or put in more efforts on selling strategies. On the other hand, ROS shows negative and significant impact on CAP but not on SELL, implying higher return on sales leads to lower capital investment.

However, ROA has no significant effect on either CAP or SELL. Overall, the results of business conduct in Table 4 suggest that a highly concentrated pharmaceutical market with less competition but with better return on sales would have less motivation to inject more capital investment and selling ex-

penses. The finding of business performance is depicted in Table 5. There is significant

positive effect of HHI on ROS, however, the effect of SHARE on the ROS is insignificant but the coefficient is positive. This suggests that firms in more concentrated market gain better return on sales. It has truly reflected the HHI findings in the earlier section which indicates Malaysian pharmaceutical industry is classified as highly concentrated market.

In addition, the results also show that SHARE has significant and positive effects on ROA. However, the effect of HHI on ROA is insignificant but with positive coefficient sign. Therefore, firms with larger market share create better financial performance in term of return on assets and it is in line with the general perception of SCP. Further, the results reveal that SELL has significant positive influence on both ROS and ROA. The higher the expenses spend on the selling strategies such as advertisement, marketing promotion, product differentiations and distribution related efforts help to

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raise the financial performance of pharmaceutical firms as selling strategies is one of strategic behaviour in creating competitive edges over the rivals. For instances, advertisement and marketing promotion assist in building brand image advantages and product differentiations, which in turn generate greater businesses and profits to the firms. In contrast, significant but negative effects of CAP on both ROS and ROA are observed. This postulates that the more intense the capital invested by pharmaceutical firms, the lower return on sales and return on assets gain in return. This may be possible due to the under-utilization of capital investment to create profits. In summary, market structure of pharmaceutical industry and the firms' business conducts do shed some impacts on their business performance. Regression does

not tell about the causal effects among the variables. Nonetheless, the modified SCP paradigm proposes dual or multidirectional causalities among the structure-conduct-performance relationship. In other words, the elements of SCP are no longer exogenous. Instead, the whole SCP is influenced by the demand and supply related conditions that in turn depend on the market structure and firms' conduct, as well as the firms' performance. Besides, the modern SCP relationship may not necessarily be instantaneous in nature as there may be existed of lagged relationship among the variables. For instance, the market structure may be influenced by the lagged conduct or performance over a period of time making the relationship dynamic in the nature (Mishara & Behera, 2007).

Table 5: Functional Model of Business Performance (ROS and ROA)

Independent Variables	Vari-	Dependent Variable		
		ROS	ROA	
Intercept		-89.25	(-1.75)*	-0.72
HHI		10.57	(1.66)*	0.10
SHARE		0.51	(0.12)	0.76
CAP		-0.33	(-4.47)***	-0.00
SELL		90.95	(4.94)***	0.20
<i>Diagnostic Tests</i>				
R ²		0.6845		0.5793
Adjusted R ²		0.6347		0.5129
F-Statistic		13.7564		8.7296
FE Statistic		5.5231		8.2837
Hausman χ^2		0.0000		0.0000
N		324		324

***, **, * Statistically significant at 1 percent, 5 percent, and 10 percent respectively. Reported in parentheses () are t-statistics.

Our study stands out differently from the previous studies that applied simultaneous equations for modified SCP (see Mishra, P. & Vikas, 2010; Tung et. al, 2010; among

others). Instead, Panel Granger Causality test (with lagged effect) is employed in this study to examine the causality relationship,

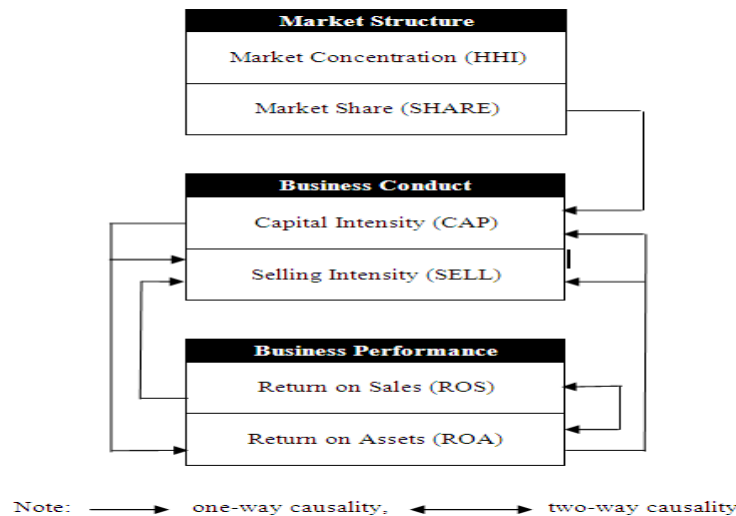


Figure 3. Graphical Representation of Panel Granger Causality Effects

following the recent study by Ferreira (2014) who explores bank efficiency and market concentration in the European Union. Panel Granger Causality tests the causality running within and between the six variables in the three SCP functional models. Together, there will be 15 combinations of Granger-typed null hypotheses to be estimated. The panel causality results are summarized and graphically represented by Figure 3. While causal effects are more evident among variables of business conduct and business performance, the market structure variables are rather weak and exogenous in causalities. For instance, there is only one-way causality running from market share to capital intensity whereas the HHI is totally absent from the causal effect. Such result is somewhat consistent with the earlier panel regression reported. On the other hand, business conduct appears to be Granger-caused by business performance and vice versa. Both capital intensity (CAP) and sell-

ing intensity (SELL) are Granger-caused by return on assets (ROA) by lagged one-period effect. At the same time, there is one-way causality running from return on sales (ROS) to SELL while two-way causal effect is confirmed between CAP-ROA at 1% significant level. In addition, we also observe causality effects present within the business variables and business performance, e.g. one-way causality from CAP to SELL and two-way causality between ROS-ROA. In brief, the findings imply at least dual causal effects appear among the business conduct and business performance in the pharmaceutical industry. This in fact verifies the modified SCP paradigm and tackles the endogeneity problem of the conventional SCP approach.

Conclusions and Implications

In the backdrop of free economic practices but unfair competition in the pharmaceutical industry, this study makes a pioneer attempt

to assess its market structure and competitiveness using the modified SCP model. A panel analysis of 41 pharmaceutical firms over 2004-2012 was conducted. The major findings are threefold. First, it is observed that the Malaysian pharmaceutical market is classified as highly concentrated (oligopoly) and the market concentration is significantly affected by the lagged return on sales while the firms' market share is driven by the return on assets. Somehow, the market structure is not influenced by the firms' business conduct but determined by their business performance. Major players in the pharmaceutical industry may have greater control over the markets and potentially colluded through unofficial collaboration to charge higher price on the medicines and drugs to gain better profits. Unfair competition for medium and small players in the industry may arise if the scenario persists. Furthermore, the high priced medicines and drugs may lead to social implication on the consumer welfare as they may suffer from buying expensive medicines which in turn increase their living expenses. Hence, it is necessary for regulation authority to imple-

ment some necessary measures to ensure a healthy competition in the pharmaceutical sector. Second, in term of business strategies for existing players, particularly selling intensity is evident to raise the firms' business performance. Thus, the selling strategies such as advertisement, marketing campaigns, product differentiations and distribution relation efforts could be effective tool for the pharmaceutical firms in creating competitive advantages over their rivals which in turn raise their return on sales. Third, two-way causal effects are found between the capital intensity (business conduct) and the return on assets (business performance) of firms. This verifies the modified SCP relationship and tackles the endogeneity problem of the traditional SCP approach. The finding of the present study provides some valuable insights and several important implications of the pharmaceutical industry. It is useful not only for the policy-makers but also for existing players, potential entrants and other stakeholders of the pharmaceutical industry.

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INNOVATION FOR A SOCIAL ENTERPRISE BUSINESS MODEL: AN ANALYSIS OF KEY SUCCESS FACTORS

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Abstract

Social enterprises driven by their social mission, not only are innovative business entities, they offer innovative solutions by providing products and services which are aimed at solving social-related challenges, when normal businesses are constrained by the nature of their structure and operational purpose. Nevertheless, due to its enterprising nature and having social objectives in mind, social enterprises require a different supportive environment for them to bloom and grow. While key success factors for normal business operations such as leadership, strategy, human resource, financial viability, organizational culture, governance, and performance measurements apply to social enterprises as well, these success factors need to be contextualised to the main purpose of their existence. What follows is an analysis of a case study with regards to the challenges a social enterprise face in Malaysia and the implication upon which key success factors to focus upon for innovation of the social enterprise.

Key Words: Social Enterprise, Business Model, Key Success Factors, Innovation

Introduction

Social enterprises are viewed as change agents that could change the way society think and behave, through their innovative products and services. Social enterprises first came about to solve social issues related to poverty, hunger, and inequality which were arising in especially high numbers (Yunus, M. 2007). Today, social enterprises have gained high attention as people see

view their products and services such as providing employment for the disabled, poor and ex-offenders, offering solutions to eradicate poverty or providing education to the underprivileged children as one of many solutions to the ongoing and recurring social problems.

Social enterprises offer advance solutions to social problems through operationalising a

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social business model. They create new values to the society by pursuing new opportunities, and fill the gaps in the efforts to tackle social problems that might have been overlooked by normal businesses and government.

People who have social-objectives in mind, and driven by the desire to create social impact through a social business model, are called social entrepreneurs. They give away their time, money, labour and more. Bornstein and Davis (2010) described social entrepreneurs as those who initiate and lead process of change which are growth-oriented, impact-focused and self-correcting.

On the one hand, social enterprises are not much different from non-profit groups or non-government organizations that depend on funds or donations or impact investors. On the other hand, social enterprises differ in terms of responsibility to recoup the investors' investment unlike NPOs or NGOs. It should not incur loss and any profit will not be given to investors but reinvested. Social enterprises should be able to be more self-sustainable. According to Yunus (2007), for for-profit social enterprises or social businesses, it is about developing non-loss and non-dividend businesses.

Hence, the role of social enterprises, differ from the role of normal businesses or even NGOs or NPOs. Social enterprises are business entities, with a social mission in mind driving the sole purpose of their existence and the profits made is to serve the needs of the social mission. Normal businesses exist to serve the needs of customers by providing products and services to the society, with an underlying mission: to make as much profit as possible. Non-profit or non-government organizations come in the picture to offer solutions to the issues, but without enough funds, resources or expertise, NGOs or

NPOs might not be able to sustain. Thus, it is very important for these organisations to sustain themselves. This is where social enterprises enter the third sector. While offering solutions to the social issues, they are also generating revenue to cover their expenses and reinvest it back in the enterprise (Nicholls, 2006).

What is most challenging though about a social enterprise is its ability to leave a positive impact based on what it intended to solve. Successful social enterprises must, to some extent, have shown a track record in solving particular social issues while able to sustain itself financially. Hence, in Malaysia, social enterprises tend to hone into key social issues which are current and immediate. According to a research by the Social Enterprise Alliance Malaysia (SEA Malaysia, 2014) social enterprises in Malaysia focus on these areas of impact: culture, disabled, youth, delinquents, and human rights. In terms of distribution of focus, 30% of Malaysian social enterprises or entrepreneurs are from culture or fashion industry, 20% entertainment, 20% event (youth), 10% food and art, 10% auto and 10% from consulting or research (human right). Some instances of impact that have been created include societal behavioural change with regards to environmental issues (WildAsia, 2014), providing education to improvement in living standards through education (SOLS24/7), and raising the standards of living for indigenous society needs (Epic Home, 2014).

Innovation In Social Enterprise: The Success Factors

Social enterprises are also subjected to similar key success factors, like normal businesses are. However, there are particular is-

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sues which social enterprises need to consider.

In a study by Sharir & Lerner (2006), the researchers listed eight variables as success factors of the social ventures and arranged all of the factors based on its value: (1) social network; (2) total dedication to the venture's success; (3) the capital base at the establishment stage; (4) the acceptance of the venture idea in the public discourse; (5) the composition of the venturing team, including the ratio of volunteers to salaried employees; (6) forming co-operations in the public and non-profit sectors in the long-term; (7) the ability of the service to stand the market test; and (8) the entrepreneurs' previous managerial experience.

Boyer, Creech and Paas (2008) have listed these key success factors: (1) leadership: continuous engagement to lead and coordinate the enterprise; (2) partnership: the ability to negotiate and sustain a core set of relationships for the benefit of the enterprise; (3) triple bottom line planning that align economic benefit and social benefits; (4) attractiveness and clarity of innovative concept: product serve has clear concept and has potential in the market; (5) business planning and marketing: it can be the leaders or the partners who should have the expertise in business and marketing skills; (6) community engagement: engagement of the local stakeholders and beneficiaries for long term success; (7) short and long term benefits management: the enterprise should able to demonstrate how it plan to deliver both short and long term benefit to the stakeholders; (8) risk management: planning of risk mitigation to ensure the sustainability of the enterprise.

According to Wronka (2013), ten success factors for social enterprise are: 1) strong leadership, 2) motivation and commitment,

3) enabling legal / regulatory environment, 4) attractiveness and clarity of innovative concept, 5) management expertise, 6) key personal qualities for front line service delivery, 7) effective collaboration with public sector, 8) social capital, 9) local community involvement and 10) keeping and distributing accurate financial records.

The Social Enterprise Knowledge Network (2006) utilised a mapping framework (see Figure 1) to explain what effective management of social enterprise means. There are four elements used in the framework; (1) purpose: value creation and alignments of all the other elements; (2) integrative drivers: three managerial components as primary functions; leadership, strategy and organizational culture; (3) implementing mechanism: covers five core managerial areas; organizational structure and processes, human resources, financing, governance, and performance measurement; (4) contextual factor: it creates constraints and opportunity and looking at external forces political, economic, social, technological, environmental, and demographic, understand and adapt to these to shape the performance. In a related research about social enterprises in tourism sector, Von der Weppen & Cochrane, (2012) discussed the operational models and the success factors for social enterprise by using the integrative drivers and implementing mechanisms. However, in the implementing mechanism, both Weppen and Cochrane have included one more area, market awareness.

They have listed three success factors for social enterprise and they labelled as '*integrative drivers*' which are leadership, strategy and organizational culture. Besides the integrative drivers, the writers also listed down six categories of implementing mechanisms for a successful social enterprise

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which are 1) processes and structure, 2) human resources, 3) financing, 4) governance, 5) performance measurement and 6) market awareness.

Brightfuture: A Case Study Of Social Enterprise Business Model

BrightFuture, founded in 2008, is a for-profit social enterprise established as a Small and Medium Enterprise (SME) subsidiary of a well-known publication company in Malaysia. Its vision is developing people into leaders, build affectionate communities, and transform human societies. Hence, its mission is to transform the nation through leadership development.

As a small social enterprise, it employs 36 employees who work in smaller teams for various divisions. The corporate services division offers leadership development programmes oriented towards training, educating, and developing talents in business companies. BrightFuture use their corporate services as the for-profit arm to fund its not-for-profit arm, the community division. The community division, comprising of three teams--Youth team, BrightFuture campus team, and BrightFuture Community Centre team--offers community programmes targeted towards the youths, the university students, and the NGOs leaders at an affordable minimal cost. For university students, it offers leadership training programmes with 30% of the training space being subsidized by for the underprivileged children For the NGOs leaders, the DoSomething team manages the NGOs learning programmes and the volunteers-NGOs online matching portal, and offers training on core organisational management skills such as marketing, finance and human resource leadership is offered.

Business Model Analysis

Social Enterprise Structure

Firstly, the analysis will start with the structure of the social enterprise. BrightFuture offer leadership development programmes to the corporate sectors and also in the community programs for the university students, youth and helps the NGOs and the community leaders to be good leaders. Thus, the social enterprise provides services in the market and the target population.

“We have our corporate service that offers training to the corporate sector. We also have our community service that consists of the youth, the undergraduates and NGOs programs. Besides that, we also have our media arm where we have mystarjob pull-out, publishing and our own Bright Future show (Business development executive).”

The Target Population (Clients)

Target population or clients for social enterprises are different based on the social mission that drives them. Thus, social mission will be used to determine the target population or the clients for BrightFuture. From its mission statement, BrightFuture stated that they want to transform the nation through leadership development. They stated that their current target markets are the working adult (community services and NGOs leader), the university students and the youth.

“We build from every level: the youth, the undergraduates and corporate sector. We believe to build a leader from the younger generation (CFO/COO).”

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The Market

As has been discussed in several discussions before, the market is where product or services being offered either by the social enterprise or the target population. For BrightFuture, the market is the target population itself which is the corporate people, the youth, the university students and the NGOs leaders. However, it is different in certain services. BrightFuture offers leadership development to the corporate services, NGOs leaders, the youth program, thus, they are the target market. In contrast, for the university students programs who are the target population, the target market is the university or the corporate who want to train their scholarship holders or look for their potential employees from university students.

“We have a holistic approach in achieving our social mission. For our corporate services, we offer learning development & training for every level in organization. For community services, we are hitting university level students through programs in order to prepare them for the workforce. We also have the youth in secondary level where we have camps, club and training and also a community center. Besides that, we have program with NGO arm to enhance their leadership capability. Finally, we have the media team where we have our own show and publishing (Sales representative).”

The Financial And Product/Service Flows

Their generated income will come from the corporate services, the youth camps, the university students programs. Their community programs are the BrightFuture Club for youth in the school, the community centre

for the youth, DoGoodVolunteer and DoGoodAcademy. Thus, the generated income will be invested in the community programs. Even in the youth camp, even though the youth need to pay for the camp, BrightFuture subsidize 30% of the camp which is for the underprivileged children so that they can join the program and receive the benefit of the program.

“Even though half of my company are profit making, but all of the teams are actually doing our social mission which is to build a leader (CFO/COO).”

Types of Product

Social enterprises also offer products or services like normal businesses. For BrightFuture, what they offer is leadership development programs not only to the corporate services but also to the community programs that involves the non-governmental organizations (NGO) leaders, the university students and the youth.

“Our social mission is to transform the nation through leadership development. We aim to build better leaders for our nation by providing cradle-to-grave leadership solutions (CEO).”

Thus, by looking at the components of the social enterprise that have been stated, BrightFuture is using either Service Subsidization Model or Fee-for-service Model.

From the social enterprise structure, Service Subsidization Model is offering product to the external market and subsidized fund to social program. It means that the external market and the social program are sharing costs, assets, operations, income, and often programme attributes. Also, the target popu-

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lation or the client and the market are different. The market consists of external parties which are not related to the target population.

However, the target population or clients for BrightFuture are the working adults, the university graduate and the youth. Also, these are also people that involves in the market for BrightFuture where they are the one who receive product or services from BrightFuture. This shows that the target population and the market are the same group of people. Thus, by this criterion, it shows that BrightFuture is actually having the Fee-for-Service model instead of Service Subsidization Model.

Innovation through key success factors:
Governance, strategy, and human resource management

There are three key challenges which Brightfuture should consider for innovation.

Challenge #1: Governance And Financial Sustainability Of A For-Profit Social Enterprise Business Model

For BrightFuture, the source for their income is from the for-profit arm, the corporate service division. Thus, there is no diversification in income sources. Thus, there is no reliance on other funding mechanisms. Even though the current business model is financially viable, it may not be viable in terms of future business expansion, especially if it needs to continuously hold on to its social mission.

“Being a social enterprise gives us a deeper purpose and mission. Our company is financed by our revenues – through the different products and

services. It is all integrated. We self-finance and are sustainable.” (Chief Executive Officer)

“We are actually not making much by ourselves, that is why our for-profit arm are working hard in order to finance the community arm like us.” (Director of DoSomething Team)

“Our ability to deliver is limited by the number of resources that we have.” (Chief of Finance and Operation Officer)

“It is because of the vision of our leader that want to transform the society. BrightFuture leaders have leadership background and passion about camp. They have run couple of camps before and want the model to be financial sustainable instead of becoming an NGO that lead to the establishment of BrightFuture. Our company has merged for profit program with strong community driven course” (Sales representative)

Challenge #2: Strategy In Building Market/Target Group Awareness Of The Concept Of A For-Profit Social Enterprise

One of issues arise is public misconception of how BrightFuture governs its enterprise and how its social mission is connected with its economic objectives. Other than that, there is lack of support when it comes to funding/collaboration. The company depends on the word-of-mouth and also newspaper pullout. Even though, it helps to gain attention from the corporate sector, there is no much attention from other stakeholders.

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“We think that collaborate with other corporation to sponsor the BF community centre might be difficult as they believe that it will be a long term commitment and they do not prefer it that way. It is better to sponsor an event as it is for a short period and it benefits them. So, to convince them is hard actually.” (Head of Youth Division)

“In Malaysia, there is no legal form of entity for social enterprise, so we registered as a private company. Thus, when we go and see people for funding purposes, people will say that we are a [business organisation].”

“As I mentioned, it is on how to improve ourselves in the future to ensure that we still holding our values. Either having a bigger [social] impact or more [business] operation perhaps.”

“For our DoSomething initiatives, I believe that one of the challenges is the customers’ awareness. NGOs, not all of them know about our initiatives.” (Director of DoSomething Team)

The company attributes this lack of awareness and misconception poor stakeholder engagement and education on what differentiates it from normal businesses and businesses with CSR activities.

“People think we are NGO or training organization”. (Sales representative)

“Also, to make sure they know that we are not an NGO. Explaining what

social enterprise is. Explaining our social mission. Explain to stakeholder that we are not doing CSR but community driven with social mission. To me, it is very important. Educate people about what the social enterprise is all about. Also, people do not understand our for-profit and not-for profit.” (Business Development’s executive)

Challenge #3: Synchronisation Of Social Mission With Human Resource Talent Management

The company hire people based on personal value and willingness to learn first before considering their academic qualifications. Thus, the hiring process is based on personal values that match with what the company values.

“We are looking for people that would have the heart for people, not people who dislike working for people and also people who understand our mission.” (Head editor for publication division)

But, there is a weakness in human resource management. As stated by the COO/CFO, there is a lack in career progression which leads to employees’ turnover. Since the company is small and takes time to expand, this is one of challenges that the company cannot avoid.

The turnover rate among the fresh graduates is high because of this.”(Chief of Finance and Operation Officer)

For hiring the right talent, considering their current position, many applicants do apply

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jobs or position in the company. However, to find the right people with the right values and attract experienced senior leaders are still a problem for the company.

“However, my problem is to attract senior leaders, not young leaders. Some senior leaders who are frustrated with the corporate world are looking for job with a better purpose. The problem is we cannot match the salaries and remuneration at market rate. We want people with more experiences but it’s hard for them to have a pay cut because they [have] got family commitment.”(Chief of Finance and Operation Officer)

“We cannot promise a career progression as people here can only grow when the company grow. We have limiting career progression. So,

we support them to get more experiences out there.”(Chief of Finance and Operation Officer)

Conclusions

This case study has discussed the intricate challenges faced by a small social enterprise in Malaysia. The evidences showed that a social enterprise with a social mission could operate as a normal for-profit organisation. However, it is evident that, aligning social mission with economic objectives of the company, providing services to target population/market, and attracting the appropriate talents are daunting tasks for a for-profit social enterprise. These challenges are unique to social enterprises and innovation through governance, strategy, and human resource leadership are the top three requirements as key success factors.

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