KNOWLEDGE MANAGEMENT IN MALAYSIAN SMEs:
AN EMPIRICAL EXAMINATION ON INFORMATION TECHNOLOGY (IT)
SUPPORT AND STRATEGY AS PLAN

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ABSTRACT

This research study demonstrates the important of the knowledge creation process. It helps to demonstrate that knowledge management enablers, including IT-support and Strategy as Plan can promote organizational creativity and thus organizational performance. Further, the findings on the new factor, Strategy as Plan, show that it is positively related to knowledge creation. Strategy as Plan can therefore be regarded as an integral part of knowledge creation. This reaffirms Glueck’s (1980, p.9) views of strategy as “a unified, comprehensive, and integrated plan…. designed to ensure that the basic objectives of the enterprise are achieved”. Therefore it can be argued that the best path for Malaysian SMEs to achieve organizational performance is through organizational creativity achieved through a knowledge creation process that involves knowledge enablers.

Keywords: Knowledge Management Enablers, Knowledge Creation Process, Organizational Creativity, Organizational Performance

BACKGROUND OF THE STUDY

The objective of this study is to examine and analyze the relevance and use of knowledge management in small and medium enterprises (SMEs) in Malaysia. This will entail an examination and an analysis of the relationship between “knowledge management enablers”, the “knowledge creation process” (for which, see Nonaka and Takeuchi, 1995; Nonaka, Umemoto and Senoo, 1996; Nonaka and Konno, 1998), organizational creativity and organizational performance in such Malaysian enterprises. The model on which this research study is based comes from the work of Lee and Choi (2003), although Strategy as Plan has been introduced as a new construct. There are two main contributions it is hoped that this study can make. Firstly, there has been a lack of local studies in Malaysia on the integrated theory of knowledge management, and this study is intended to contribute to the process of remedying this. Secondly, it is intended that the findings here can contribute to an understanding of the role of the Strategy as Plan as a “new knowledge” factor. The inclusion of the Strategy as Plan thus addresses a gap in the research literature that is concerned with the study of knowledge management.

PROBLEM STATEMENT

The importance of the role of SMEs in the Malaysia economy, in terms of economic growth and providing employment, has been increasingly acknowledged in recent years. The Malaysian government, in the late 1980s and early 1990s, was well-known for its role in encouraging and investing in large scale firms and projects, many of which were mismanaged and thus expensive failures, especially during the Asian Financial Crisis in 1997, thus resulting in many billions Malaysia Ringgit losses. This has helped to bring change to policies.

Despite its previous focus on large firms and development projects, the Malaysian government has become increasingly aware of the important of private investment and enterprise, particularly in SMEs, in recent years. One early indication of this was the establishment of the Small and Medium Industries Development Corporation (SMIDEC) and The Multimedia Super Corridor (MSC) in 1996. This indicated its hope that SMEs
could play an important role, particularly in the Multimedia Super Corridor, the government’s most prominent attempt to realize the opportunities presented by a new age of electronic innovation. Most recently, the Malaysian Prime Minister and Minister of Finance, Dato’ Sri Najib Razak (Treasury, 2009, p. 17), in his budget speech in 2009, emphasized that “the government continues to focus on the development of local entrepreneurs, particularly in small and medium enterprises.”

During the past two decades or so, there has been a structural shift in the Malaysian economy from an agricultural-based economy to a manufacturing-based economy; and from a low income economy towards a medium-income economy. This structural shift first became apparent in 1988, when “the manufacturing sector became the leading growth sector” (The Star, September 14, 2009). In the early 2000s, the further modification to the Malaysian economy has seen a movement towards a new growth model based on knowledge-based industries in the high value-added and technology-driven services sector. The Malaysian government is well aware of this trend and, beyond direct assistance to firms, has sought to improve the quality of the most important resource they have to draw on. Thus, according to Dato’s Sri Najib Razak (Treasury, 2009, p. 21) “high quality human capital is a prerequisite to support the national development agenda” and the government will increase “efforts to increase skills and knowledge”. In this respect, Malaysian entrepreneurs, particularly those setting up or participating in SMEs, have an important role to play to ensure that Malaysia can achieve its vision, and become a “fully developed nation and join the ranks of high-income economies by 2020” (The Star, September 14, 2009).

In the face of the new challenges posed in the global economy, in order for Malaysian SMEs to be competitive and survive, it is pertinent for Malaysian SMEs to move forward from production and industrial development into a knowledge-based economy. In his budget speech, Dato’ Sri Najib Razak (Treasury, 2009, p. 6) set out three budget strategies, namely: “driving the nation towards a high-income economy; ensuring holistic and sustainable development; and focusing on well-being of the Rakyat”. It is imperative, therefore, for Malaysian SMEs to increase their operational efficiencies so as to perform a large role in transforming services sectors through knowledge management.

In short, the importance of knowledge management in Malaysian SMEs is becoming increasingly well recognized and is in fact imperative. It is based on this premise, that the research theories and integrated model presented in this study have been developed to examine and analyse such concepts in the context of Malaysian SMEs.

LITERATURE REVIEW

The concept of “Knowledge management” has been perhaps the most important phenomenon to emerge in recent years in the study of management. Knowledge management has been defined as the process involved in seeking to “understand, focus on, and manage systematic, explicit, and deliberate knowledge building, renewal, and application – that is, manage effective knowledge processes” (Wiig, 1997, p. 2). It is the process of “continually managing knowledge of all kinds to meet existing and emerging needs, to identify and exploit existing and acquired knowledge assets and to develop new opportunities” (Quintas, Lefrere and Jones, 1997, p. 387). The objective of developing a knowledge management model is to “create knowledge repositories; it attempts to improve knowledge access, and attempts to improve knowledge cultures and environments” (Davenport and Prusak, 1998, p. 146). Broadbent (1998, p. 24) indicates that “knowledge management is about enhancing the use of organizational knowledge through sound practices of information management and organizational learning.” In short, knowledge management can be personal knowledge management or organizational knowledge management. The following section will categorize the development of knowledge management.

The rapid development of Information Technology in the late 1990s has accelerated the development of knowledge management, as can be seen from the works of many management writers (Sviokla, 1996; Nonaka, Umemoto and Senoo, 1996; Davenport, 1997; Alavi and Leidner, 1999). Information technology has been used as a knowledge creation tool (Nonaka et al., 1996); as a basis for information management (Broadbent, 1998); for information systems (Alavi and Leidner, 1999); and for codification tools (Hansen, Nohria and Tierney, 1999). The development of information technology provides a new means for the subsequent development of information management into knowledge management. In short, knowledge management practitioners use information technology as a tool, a systems, data based and repository, and for information management It is all about “delivering information to support a task” and about “individual performance in the field” to get the job
done (McElroy, 2000, p. 200). In this respect, it has been referred to as “first-generation KM” (McElroy, 2000, p. 200).

The next generation of knowledge management saw the management writers integrating the organizational learning and knowledge management (McElroy, 2000; Loermans, 2002; Firestone and McElroy, 2004). According to McElroy (2000, p. 199) “many practitioners of KM are now turning to the organizational learning (OL) community as a source for what it means for an organization to learn.” In short, knowledge management writers try to integrate organizational learning into knowledge management. This development of knowledge management thus put the focus more on organization learning rather than on the individual in the workplace. This trend can be regarded as “second-generation KM” (McElroy, 2000, p. 199).

Current developments in knowledge management have seen many writers argue that knowledge management is best represented as “strategic knowledge management”. Snyman and Kruger (2004, p. 17) have argued that knowledge management strategy should be an integral part of business strategy. With others, they argue that strategic knowledge management needs to be integrated with organizational performance in order to increase efficiency and thus the competitive advantage of firms. This development can be seen as deriving from the globalization of the world economy and the increased competitive nature of modern business.

However, generally, it is accepted that there is a “lack of strategic models to link KM efforts and business strategy” (Maier and Remus, 2002, p. 107) and that, very often, the knowledge management programmes, initiatives and activities that are developed “lack a strategic perspective” (Maier and Remus, 2002, p. 103). Other writers have called for more research into the relationship between knowledge management strategy and competitive advantage (Halawi, McCarthy and Aronson, 2006, p. 384). There is evidently much still to be done in an area that has changed rapidly in recent years. Other aspects relating to these relations are reviewed below but first, it may be instructive to review briefly the place of knowledge management in Malaysian SMEs.

There have always been many small enterprises in the Malaysian economy. However, official policy has long had its focus on large enterprises, especially in the late 1980s and early 1990s, as these were seen to be the key to rapid economic development. Indeed, the accepted definition of SME in Malaysia was only first approved by the National SME Development Council of Malaysia in 2005. This definition was subsequently adopted by various government agencies including the Small and Medium Industries Development Corporation (Smidec) to include the two main categories as follows:

a. Manufacturing, manufacturing-related services and agro-based industries with full-time employees not exceeding 150 or with annual sales turnover not exceeding RM 25 million.

b. Services, primary agriculture and information & communication technology (ICT) with full-time employees not exceeding 50 or annual sales turnover not exceeding RM 5 million.

The above two general categories can be further summarized into more detailed categories (Ndubisi and Saleh, 2006, p. 5) in Table 1. As will be evident, SMEs are distinguished from the Micro enterprises characteristic of a less developed economy.

Malaysian SMEs play an important role in the Malaysia economy in terms of economic growth and providing employment. They have become the prime mover and also the backbone of industrial development in Malaysia. Malaysian government had, in the late 1980s and early 1990s, been actively involved in promoting large-scale enterprises. Many of these projects ended in failure with losses of many billions of Malaysian Ringgit. Some writers argued that the “weakness of legal institutions for corporate governance” are the main causes of failure, as manifested during the Asia Financial Crisis in 1997 (Johnson, S., Boone, P., Breach, A. and Friedman, E., 2000, p. 142). Aziz, A. (1999, p. 118) argued “whilst external factors can be influential, they are only as strong as our internal weaknesses.” Whatever the case, it would seem that one lesson learnt in the crisis was that the government should not become involved in too many commercial activities but rather focus on the setting up of policy and maintaining good business and social infrastructure, while ensuring that policies are efficiently implemented and effectively carried out. In recent years, it has tried to do this with reference to SMEs.

The Malaysian government is aware of the importance of SMEs and the importance of private investment enterprises. The setting up of Small and Medium Industries Development Corporation (SMIDEC) in 1996 was an early initiative by the Malaysian government to promote SMEs, while the Multimedia Super Corridor (MSC) in 1996 was developed with them very much in mind (see below). In a recent programme designed to promote the development of SMEs managers programmes, Deputy Human Resources Minister Datuk Noraini Ahmad
said SMEs in Malaysia “contributing to 32% of the gross domestic product, accounted for 56.4% of the total workforce, contributing to 19% of total exports” (News Straits Times, February 17, 2009; see also Fozian Ismail, 2008).

In general, the studies in the early 2000s showed a lack of knowledge management practice in private enterprises. An exploratory study by Badruddin (2004, p. 330) showed that the sort of organizations in general that were likely to undertake formal knowledge management initiatives were particularly in the “education sector, government-owned organizations and government departments”. The private sector lagged in taking formal initiatives, even if some companies were slowly catching up. In a more recent study on the knowledge management in Malaysian MSC status companies, nine key “soft” knowledge management enablers were identified as important factors (Gerald Goh, Ryan and Gururajan, 2006, p. 8).

The study by Goh, Ryan and Gururajan is restricted and focused only on the Malaysian MSC status companies. In fact it can be said generally that there the low level of knowledge management practice in Malaysian SMEs is matched by a lack of study on knowledge management practice, and that no research has been conducted into knowledge management as part of an integrated approach. Further, it is evident that research findings from other regions and countries, for example the integrated knowledge management research on Australian SMEs conducted by Mohammad (2005), would not be directly applicable within the Malaysian environment. However, it is worth noting that three of the knowledge enablers (learning, T-Shaped skills and IT-support) that were part of this study were found to be positively related to the knowledge creation process (Mohammad 2005, p. 313). In addition, his study findings also confirmed a positive relationship between the knowledge creation process and organizational creativity, and between organizational creativity and organizational performance (Mohammad, 2005, p. 314).

Mohammed’s work provides something of a model for this study. There remains an evident need, which this study is intended to provide a basis for meeting, to investigate the extent to which knowledge enablers embracing the knowledge creation process have or can increase organizational creativity and ultimately organizational performance in Malaysian SMEs.

In view of the points made above, as to the general recognition of the importance of knowledge management, especially as part of a response to changes in the modern global economy, it is necessary now to review the “knowledge management enablers” that are embedded in a knowledge management process. The two main knowledge management enablers selected in this review include the two main aspects and dimensions in the organization, particularly in the SMEs setting. These two enablers involve IT support and Strategy as plan. The two knowledge enablers chosen provide good dimensions; at the same time they are not too complex to handle in this research project setting involving SMEs.

Information technology, has been the most rapidly-changing factor in knowledge management and knowledge management initiatives. In the first place, the development of information technology transformed information management potentially into knowledge management, and as information technology improves and advances, it continually opens up new possibilities and opportunities for effective knowledge management (Davenport, 1997; Alavi and Leidner, 1999).

In general, the development of information technology has played an important role in the organizational of knowledge processes. Academics and practitioners have emphasized the different roles of information technology according to the respective context and framework. Information technology can be used by an organization for storing data in modes that allow for “data mining”, the transfer of and the sharing of knowledge (Davenport, 1997); for knowledge storage and retrieval or as “organizational memory” (Stein and Zwass, 1995) for building “organizational memory” through knowledge retention (Cross and Baird, 2000, p. 69). Information technology provides the tools and capabilities for “knowledge management systems” (Alavi and Leidner, 1999; Alavi and Leidner, 2001).

As Sviokla (1996, p. 25) puts it, much of the technology associated with the computer is “not passive but active tools that manage the process of work”. Thus for example, the implementation of IT in an organization can give economies of scale (Sviokla, 1996) and increase productivity if it is integrated as part of organization change (Brynjolfsson and Hitt, 1998). Information management can be transformed into knowledge management by synergizing the information technology tool with human capabilities, or by “integrating qualitative and quantitative” aspects of a knowledge management system (Liao, 2003, p. 162).
In outlining the development of a knowledge management system, Nonaka and Takeuchi (1995) have emphasized the importance of information technology as an integral part of the “knowledge creation process.” Nonaka et al. (1996, p. 203) use the new theory to examine “how information technology can help implement the concept of the knowledge creation company”, in what amounts to a paradigm shift for the emerging “knowledge society.” They provide a practical example from Japanese business; “Seven-Eleven Japan represents our concept of the knowledge creation company, because it synergistically fuses IT as a knowledge creation tool and human beings with collaborative knowledge creation abilities.” (Nonaka et al., 1996, p. 204).

In contrast, strategy is another important construct in knowledge management. There is no one single definition of strategy; it has long been used implicitly in different ways (Mintzberg, 1987, p. 11). In the world of business there have been various definitions by various authors. Drucker, the greatest of business writers, defined the concept as “purposive action” (Drucker, 1974, p. 104); Mintzberg (1987, p. 11) considered that strategy could be any one of “plan, ploy, pattern, position, and perspective”; and Glueck (1980, p. 9) views strategy as “a unified, comprehensive, and integrated plan…designed to ensure that the basic objectives of the enterprise are achieved”. According to Chandler (1963; cited in Ghemawat, 2001, p. 1) strategy can be defined as “the determination of the basic long-term goals and objectives of an enterprise and the adoption of courses of action and the allocation of resources necessary for carrying out those goals.” The need for companies to have strategies has always been clear, although it is perhaps even more so in the modern globalized business environment.

Furthermore there is also no one single definition that captures the meaning of plan. However, according to Mintzberg (1994, p. 351) the role of a “plan” serves as a “media for communication and devices for control”. As a medium of communication, it can “inform people of intended strategy and its consequences”, and as a device for control, it can incorporate “feedback into the strategy making process of comparing expectations with actual performance” (Mintzberg, 1994, p. 354).

Cyert and March (1963, pp.111 - 112; cited in Mintzberg, 1994, p. 355) “make four observations on plans within an organization”. These are worth setting out in full:
(a) A plan is a goal and a planning prediction functions to confirm its goal, such as sales, profit level, and so forth;
(b) A plan is a schedule, which specifies intermediate steps to a predicted outcome;
(c) A plan is a theory, for example, the budget specifies a relationship between such factors as sales and costs on the one hand and profits on the other;
(d) A plan is a precedent; it defines the decisions of one year and thereby establishes a prima facie case for continuing existing decisions.

As mentioned early, “strategy” has been referred to as “the determination of the basic long-term goals” or “purposive action” (Drucker, 1974, p. 104). It is important for organizations to have a “strategy” in the world of “new knowledge creation” and to have a long term “plan” to achieve an organizational goal or organizational performance. The word “plan” has been referred to as “a prediction function to confirm its goals” (Cyert and March, 1963, p. 111). There is no one single definition to describe the meaning of “strategy plan”. According to Mintzberg (1987, p. 20) Strategy as Plan “deals with how leaders try to establish direction for organizations, to set them on predetermined courses of action...” In other words, Strategy as Plan firstly involves leadership setting the direction, and secondly involves a “predetermined course of action” or “schedule” (Cyert and March, 1963, p. 111). It embraces the knowledge creation process to embrace new knowledge and ideas, new products and services on the part of the knowledge creating company. The ultimate long term “plan” is required to achieve the long term goals of organizational performance.

On the other hand, organizational creativity lies at the heart of the knowledge creative process. Many works, from writers such as Amabile, Conti, Coon, Lazenby, and Herron (1996); Amabile (1997) and Woodman, Sawyer and Griffin (1993), have emphasized this relationship. While there is no standard definition of creativity or organizational creativity, two attempts have been found of value here. Creativity has been defined as “the production of novel and useful ideas in any domain” (Amabile et al., 1996, p. 1155). According to Amabile et al. (1996, p. 1155) “creativity is the seed of all innovation, and psychological perceptions of innovation (the implementation of people’s ideas) within an organization are likely to impact the motivation to generate new ideas.” The meaning of creativity may include creativity from an individual, within and outside of an organization, or from sources in society at large.

Management writers have adapted the meaning of “creativity” to the context of the operations of an organization. According to Woodman et al. (1993, p. 293) “organizational creativity is the creation of a
valuable, useful new product, service, idea, procedure, or process by individuals working together in a complex social systems.” This can be taken as an operational definition for an examination of organizational creativity.

It is necessary to be able to see what can and has been achieved through promoting organizational creativity, innovation, etc., and this is best done through measuring “organizational performance”. Organizational performance can be measured in various ways, as in terms of profitability, growth rate, market share or even competitive advantage. Lee and Choi (2003, p.190) categorize methods for measuring organizational performance in knowledge management that include “financial measures, intellectual capital, tangible and intangible benefits, and balanced scorecard.”

THEORETICAL FRAMEWORK, RESEARCH QUESTION AND HYPOTHESIS

Theoretical Framework

Figure 1: Theoretical Framework

Research Question

Research questions are constructed in order to meet the objectives of the research:

1. What is the relationship between knowledge management enablers and the knowledge creation process?
2. Is organizational creativity linked to the knowledge creation process?
3. Is organizational creativity linked to organizational performance?

Hypothesis

In order to answer the abovementioned research question, this study posits the hypothesis to be:

- **H1**: IT support is positively related to the knowledge creation process.
- **H2**: Strategy as plan is positively related to the knowledge creation process.
- **H3**: The knowledge creation process is positively related to organizational creativity.
- **H4**: Organizational creativity is positively related to organizational performance.

RESEARCH DESIGN AND METHODOLOGY

The sampling method having been decided on, it remains to explain the manner of approach to the units that are the subject of analysis. These units have been taken from Malaysian SMEs which can be categorized into two sections. The first category includes companies in manufacturing, manufacturing related services and agro-based industries, with full-time employees not exceeding 150, or annual turnover not exceeding RM 25 million. The second category includes companies in services, primary agriculture and information and communication technology (ICT) with full-time employees not exceeding 50, or annual turnover not exceeding RM 5 million.
An information statement relating to the nature of this study together with the questionnaire was sent to the management of a number of companies, which were within the categories set out above and listed in Malaysian SME business directories on a random basis. It was taken that those who replied to the invitation, which allowed them to remain anonymous, had given informed consent.

According to Chin (1998) the number of responses required for the questionnaires should be at least 10 times the number of items in the largest scale. Based on the questionnaire, a minimum of 50 responses was required as the number of items in the largest scale is 5. Based on an anticipated response rate of 5%, a total of about 1025 letters of invitation to participate in the survey, together with the above documents, were sent to Malaysian SMEs that fell into the two categories outlined above.

RESULTS

Descriptive Analysis

A total of 1025 questionnaires were distributed to Malaysian SMEs organizations. These were organizations randomly selected from Malaysian SMEs directories. Each organization was sent a survey questionnaire that invited the owners or the managers in the organization to participate in the research. Out of the total number distributed, 110 of questionnaires were returned. Out of the total that responded, 5 questionnaires were incomplete, therefore only 105 questionnaires were used in the data analysis. This amounted to a 10.24% response rate.

The composition of the sample indicates that the majority of the respondents are male with 70.5% as against female with 29.5%. This composition was not unexpected as it is reasonable to see a relatively high number of females in management positions in Malaysian companies. Malaysian females have benefited from official programmes of equal opportunity in education and employment in Malaysia, and many of them hold such management positions as chief operating officers, administration managers and human resource managers. In addition, many females have become entrepreneurs in the service sector.

As for work experience, respondents with less than 5 years comprised of 13.3% of the total number; those with work experience between 5 years to 10 years comprised 24.8%; those with work experience between 11 years to 15 years comprised 23.8%; and those work experience with 16 years and above comprised 38.1%. Thus the results showed that 61.9% of respondents had more than 10 years working experience. Only 13.3% of the respondents had less than 5 years experience, and these are perhaps the young entrepreneurs in the services and ICT sectors. Based on the length of working experience of more than 10 years, it may be presumed that more than half of the respondents are either owners of partners or shareholders in the organizations.

As regards to the education qualification, the respondents’ distribution indicates that 21.9% have only a diploma or a lesser or no qualification, 33.3% have a bachelor’s degree and 32.4% have a post graduate degree and above. Further, 12.4% have attained a professional degree. The results indicate 78.1% of the respondents have at least attained a tertiary qualification. The changes in Malaysian education policy and the development of knowledge management in the last decade may have contributed to the high level of education in Malaysian entrepreneurs and management personnel that is indicated in this sample.

Reliability Analysis

Reliability analysis measures the stability and consistency of the concept and helps to assess the “goodness of a measure” (Sekaran, 1992, p. 173). Consistency indicates how well the items “hang together as a set” (Sekaran, 1992, p. 174). One of the consistency tests is inter-item consistency reliability, and this is best achieved by using Cronbach’s coefficient alpha. Cronbach’s alpha indicates “how well the items in a set are positively correlated to one another” (Cavana et al., 2001, p. 321).

Table 2 tabulated all the internal reliabilities of the scales by using Cronbach’s alpha (α), which measures the reliability of a research instrument in social science, to examine the internal consistency of the research instrument. It is generally considered that for Cronbach’s alpha, 0.8 and above are very good, between 0.7 and 0.8 are considered good, and those between 0.6 and 0.7 are adequate. Results for Cronbach’s alpha below 0.6 are consider poor and therefore should be deleted. Hence, as the internal validity for all the constructs is at least 0.6 and above, therefore the entire constructs are acceptable.

Factor Analysis for the Knowledge Management Enablers

Table 3 indicates the loading factor for IT support. The result shown in the table indicates that all the loading factors are greater than the cut off level, therefore all are accepted.
Table 4 presents the loading factor for Strategy as Plan. This is a new construct in the study of KM. Again, since all the loading factors for Strategy as Plan shown above the cut-off level, therefore all are accepted.

**Factor Analysis for Knowledge Creation Process**
Table 5 presents the loading factor of knowledge creation process. Since all the variables are above the cut-off point of 0.4, therefore they are accepted.

**Factor Analysis for Organizational Creativity**
Table 6 presents the loading factors for organizational creativity. The entire scale factor loadings have achieved the cut-off level, therefore all are accepted.

**Factor Analysis for Organizational Performance**
The loading factor of organization performance, the dependent construct, is presented in the table 7. The entire scale factor loading have achieved the cut-off level of 0.4, therefore all the scale is accepted.

**Results of Regression**
The results of regression for IT support vs. The knowledge creation process are summarized in the table 8. The table shows F=0.01 < 0.5; thus hypothesis H1 is supported and it can be concluded that IT-support (independent variable) significantly affects the knowledge creation process (dependent variable). In addition, since B-value is +0.446, it can be concluded that there is a significant and positive relationship between IT-support and the knowledge creation process. Also, IT-support explains 19.9% of the total variance (R2) in the knowledge creation process; this is the strength considered between medium and large based on the benchmark (R2=0.01=small, 0.05=medium, 0.25=large) set by Cohen (1992).

In addition, the results of regression for Strategy as Plan vs. The knowledge creation process are summarized in the table 9. The table shows P=0.01 < 0.5; and thus the hypothesis H2 is supported. It can be concluded that Strategy as Plan (independent variable) significantly affects the knowledge creation process (dependent variable). In addition, since B-value is +0.527, it can be concluded that there is a significant and positive relationship between Strategy as Plan and the knowledge creation process. Also, Strategy as Plan explains 27.7% of the total variance (R2) in the knowledge creation process, and this strength is considered large according to the benchmark (R2=0.01=small, 0.05=medium, 0.25=large) set by Cohen (1992).

For the knowledge creation process (KCP) vs. organizational creativity (OC) the table 10 shows P=0.01 < 0.5, and thus the hypothesis H3 is supported. It can be concluded that the knowledge creation process (independent variable) significantly affects organizational creativity (dependent variable). In addition, since B-value is +0.544, it can be concluded that there is a significant and positive relationship between knowledge creation process and organizational creativity. Also, the knowledge creation process explains 29.6% of the total variance (R2) in the organizational creativity, and this strength is considered large based on the benchmark (R2=0.01=small, 0.05=medium, 0.25=large) set by Cohen (1992).

The result for Organizational Creativity (OC) vs. Organizational Performance (OP) in table 11 shows that P=0.01 < 0.5, and thus the hypothesis H4 is supported. It can be concluded that organizational creativity (independent variable) significantly affects the organizational performance (dependent variable). In addition, since B-value is +0.578, it can be concluded that there is a significant and positive relationship between organizational creativity and organizational performance. Also, organizational creativity explains 33.4% of the total variance (R2) in the organizational performance, and this strength can be considered large based on the benchmark (R2=0.01=small, 0.05=medium, 0.25=large) set by Cohen (1992).

**DISCUSSION**
In the present study, it has been demonstrated that IT-support (H1) is positively related to the knowledge creation process. Again, this echoes the literature on their relationship; information technology plays an important role in the “knowledge creation process” (Nonaka and Takeuchi, 1995) and information technology provides support “for collative work, for communication, for searching and accessing, for simulation and prediction, and for systematic storing” (Lee and Choi, 2003). Again, it could be argued that this can have positive implications for Malaysian SMEs.
Thus it has been argued that the establishment of a Multimedia Super Corridor (MSC) has helped to “transform the nation into a knowledge-based economy” (MSC Malaysia, 2009a). The initiatives have attracted many ICT foreign direct investments to Malaysia, particularly from the US and Europe. Such foreign FDI in ICT has indirectly benefited Malaysian SMEs through outsourcing and subcontracting. In addition, the transformation of “e-government” over the last decade has indirectly helped to develop ICT processes and ventures among Malaysian SMEs. Indeed, the development of a knowledge based economy and the development of internet technology have directly and indirectly increased IT-support in Malaysian SMEs in areas such as collaborative, communication, searching and systematic storing. In turn this should have positive implications for the knowledge creation process in such organisations.

In this study, it has been demonstrated that Strategy as Plan (H2) is positively related to the knowledge creation process. This is in line with the views of of Mintzberg (1987, p. 20) who states that Strategy as Plan deals with how “leaders try to establish direction for organizations, to set them on predetermined courses of action”. The leaders in SMEs are usually the founders, co-founders, partners, entrepreneurs and the senior management of the organizations; their involvement in the strategy plan are therefore natural and a necessity. In an SME organization, generally there is no thick level of middle management. It follows that the leader and the management can communicate directly with other stakeholders, particularly the suppliers and customers, and they can communicate effectively internally with their staff. It follows that it is easier for them to “control” and obtained “feedback” internally from the employees and externally from the suppliers and customers. Indeed, as Strategy as Plan, involving leadership participation, communication and control, is logically associated with the knowledge creation process, it could possibly be important to the performance of Malaysian SMEs.

This study shows that the knowledge creation process is positively related to organizational creativity. The hypothesis (H3) has been supported. As Nonaka and Takeushi put it, the knowledge creation process and indeed the whole organizational knowledge creation process is important because this relates to “the capability of a company as a whole to create new knowledge, disseminate it throughout the organization, and embody it in products, services, and systems” (Nonaka and Takeuchi, 1995, p. 3). This enables the “knowledge creating” company to achieve continuous innovation (Nonaka, 1991, p. 96).

It follows that the process in the knowledge creation company will lead to organizational creativity. Creativity has been defined as “the production of novel and useful ideas in any domain” (Amabile et al., 1996, p. 1155), and organizational creativity as “the creation of a valuable, useful new product, service, idea, procedure, or process by individuals working together in a complex social systems” (Woodman et al., 1993, p. 293). It follows that such processes are potentially important to Malaysian SMEs.

This research study has found that the organizational creativity is positively related to organizational performance. The hypothesis (H4) has been supported. Organizational performance according to Lee and Choi (2003, p. 222), can be assessed through the “overall success, market share, growth rate, profitability, and innovativeness”. In the case of Malaysian SMEs, there is some evidence of change and improvement during the last decade. It is evident from this study that their capacity to play an important part in the economy rests on their commitment to knowledge management. It is hoped that this study will provide support for encouraging public policy to pursue such trends.

It has to be stressed that any implications from this study for public policy can only be limited. Although all the hypotheses tested in the study were positive, no attempt was made to measure the inter-relationships and thus the relative importance of the variables in the model. The four knowledge management enablers are certainly linked to the knowledge creation process, to organizational creativity and organizational performance. However, it is impossible to say anything further in analysis on the basis of this study.

CONCLUSION
While all the hypotheses tested were supported, it is doubtful whether any policy implications can derive from this study without a more sophisticated approach examining the interactions between the variables.

However, the study did investigate an integrated view of knowledge management enablers, organizational creativity and organizational performance, based on the example set by Lee and Choi (2003, p. 222), who wished to assess “overall success, market share, growth rate, profitability, and innovativeness”. Their measure retained a “financial performance” perspective of balanced scorecard and “supplements it with measures on the drivers of future potential” (Lee and Choi, 2003, p. 190). This measure may have its limitation in the competitive globalized economic environment but it provides a starting-point for policy initiatives.
Thus, in the changing global economic landscape, emerging countries, like Malaysia, face many challenges to their manufacturing sector. It follows that its firms, including Malaysian SMEs, must look to high-technology, high-knowledge skills and high-capital intensive industries. Only in this fashion will they be able to achieve a sustained competitive advantage, with a basis in resources like “value, rareness, imitability, and substitutability” (Barney, 1991, p. 99). As proposed by Halawi et al., (2006, p. 384) “future research should investigate the circumstances under which knowledge management can create a sustainable competitive advantage within the framework of the resource-based view (RBV)”. It is therefore recommended that the future research on Malaysian SMEs should further investigate the relationship between knowledge management and competitive advantage.

REFERENCES

TABLES

Table 1 – Detailed definition of Malaysian SMEs

<table>
<thead>
<tr>
<th>Category</th>
<th>Micro enterprise</th>
<th>Small enterprise</th>
<th>Medium enterprise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing, Manufacturing-related services &amp; agro-based industries</td>
<td>Sales turnover of less than RM 250,000 OR Full-time employees less than 5</td>
<td>Sales turnover between RM 250,000 &amp; RM 10 million OR Full-time employees between 5 to 50</td>
<td>Sales turnover between RM 10 million and RM 25 million OR Full-time employees between 51 to 150</td>
</tr>
<tr>
<td>Services, primary agriculture &amp; ICT</td>
<td>Sales turnover of less than RM 200,000 OR Full-time employees fewer than 5</td>
<td>Sales turnover between RM 200,000 and RM 1 million OR Full-time employees between 5 to 19</td>
<td>Sales turnover between RM 1 million and RM 5 million OR Full-time employees between 20 to 50</td>
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Table 2 - Internal Reliabilities for the scale

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<thead>
<tr>
<th>Scale</th>
<th>Cronbach’s alpha (α)</th>
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<tbody>
<tr>
<td>IT-support</td>
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</tr>
<tr>
<td>Strategy as Plan</td>
<td>.919</td>
</tr>
<tr>
<td>Organizational creativity</td>
<td>.897</td>
</tr>
<tr>
<td>Organizational performance</td>
<td>.838</td>
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</tbody>
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Table 3 - Loading factor for IT Support

<table>
<thead>
<tr>
<th>Item</th>
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<tbody>
<tr>
<td>IT-S1</td>
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<tr>
<td>IT-S2</td>
<td>.815</td>
</tr>
<tr>
<td>IT-S3</td>
<td>.775</td>
</tr>
<tr>
<td>IT-S4</td>
<td>.677</td>
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<tr>
<td>IT-S5</td>
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Table 4 - Loading factor for Strategy as Plan

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<tr>
<td>SP2</td>
<td>.897</td>
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<td>SP3</td>
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<tr>
<td>SP4</td>
<td>.879</td>
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<tr>
<td>SP5</td>
<td>.845</td>
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Table 5 - Loading factors for Knowledge Creation Process

(Socialization, Externalization, Combination, and Internalization)
<table>
<thead>
<tr>
<th>Item</th>
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</thead>
<tbody>
<tr>
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<table>
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<tr>
<td>OP3</td>
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<tr>
<td>OP5</td>
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<th>F</th>
<th>B</th>
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<th>Sig</th>
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</table>

<table>
<thead>
<tr>
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<th>B</th>
<th>t</th>
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</table>

<table>
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<th>DV</th>
<th>R2</th>
<th>F</th>
<th>B</th>
<th>t</th>
<th>Sig</th>
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</table>
Table 11 - Results of Regression Analysis for Organizational Creativity (OC) vs. Organizational Performance (OP)

<table>
<thead>
<tr>
<th>IV</th>
<th>DV</th>
<th>R²</th>
<th>F</th>
<th>B</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>OC</td>
<td>OP</td>
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<td>51.542</td>
<td>0.578</td>
<td>7.179</td>
<td>0.001</td>
</tr>
</tbody>
</table>

KCP | OC             | 0.296 | 43.254 | 0.544 | 6.577 | 0.001 |