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Abstract

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Keywords

smes, enterprises, medium, small, malaysian, capabilities, operational, chain, analysis, supply, literature

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A LITERATURE ANALYSIS ON THE SUPPLY CHAIN OPERATIONAL CAPABILITIES IN MALAYSIAN SMALL AND MEDIUM ENTERPRISES (SMEs)

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ABSTRACT

Small and medium enterprises (SMEs) significantly contribute to Malaysia's aspiration to become a fully-developed nation as part of vision 2020, envisioned by the fourth Prime Minister, Tun Dr Mahathir Mohamad. SMEs are the backbone of the economic prosperity in Malaysia. It is important to identify the key problems and obstacles that lead to several challenges faced by many of SMEs in Malaysia. The purpose of this paper is to review the literature to identify factors influencing supply chain operational capabilities (SCOC) of SMEs in Malaysia. This will help to expound on the various operational capabilities in an SME that can be organised, interfaced and managed. Hence, Malaysian SMEs can explore which capabilities may influence to the improvement of business performance. The review of the literature in this paper also attempts to show which capability benefits to the operation activities in Malaysian SMEs should be identified. Finally, further research directions are also suggested.

Keywords:

Supply Chain Operational Capabilities, Small and Medium Enterprises, Business Performance, Malaysia, Literature Analysis

1. INTRODUCTION

Over the years, many researchers have been inspired to study capability in order to identify its importance in an organisation (Ogulin, 2003). Table 1 shows the several studies on the evolution of capability. Basically, there is a mutual connection between capability and asset. If a firm fails in handling its assets, it will impact the competitive position of a firm. However, capability is slightly different from asset, in terms of: (i) inability to provide monetary value, tangible plants, and equipment to a firm, and (ii) cannot be traded and imitated (Day, 1994; Dierickx et al., 1989). On the side of supply chain (SC) activities, capabilities relate to the organisation's ability in handling correct orders on time, communicating and providing information with other channel members as accurate as possible, handling and filling orders using web-based system, managing return product, and also establishing global distribution penetration (Cho et al., 2008). As classic examples, Wal-Mart which has an expertise in inventory replenishment and Honda which has skill in managing their dealer shows that organisation could improve its strong business process if it realises and understands its capability (Stalk et al., 1992).

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This paper attempts to show the operational capabilities of SMEs in Malaysia. To manifest the previous work, this paper reviews the relevant studies to address, “which capabilities benefit to the operations activities in Malaysian SMEs”.

Table 1: The evolution on different insights of capabilities

Scholars	Objective	Findings
(Kogut and Zander, 1992)	To understand the knowledge base of a firm that leads to a set of capabilities to enhance the chances for growth and survival	Firm will face difficulties if there is an intent to switch to a new capability
(Day, 1994)	To define the capabilities in more details and explore the relationship between capability and strategy To determine which capabilities that leads to market-driven organisation To show the application method of the capabilities approach to the programs design	Improving market orientation of an organisation through organisational transformation Two capabilities would be focused on: (1) market sensing, and (2) customer-linking
(Teece and Pisano, 1994)	To develop the dynamics capabilities approach in conjunction to analyse the wealth creation sources	The private wealth creation in regimes of rapid technological change depends in large measure on honing internal technological, organisational, and managerial processes inside the firm
(Eisenhardt and Martin, 2000)	To determine the dynamic capability as a resource-based view of the firm	Firm should focus on dynamic capability to improve the firm’s process in terms of product development, strategic decision making, and alliancing
(Pylipow, 2003)	To examine the supplier capabilities of an organisation	Eight steps have been taken to ensure that suppliers have such capabilities to accommodate firm’s needs

2. SME DEVELOPMENT IN MALAYSIA: KEY PROBLEMS, OBSTACLES, AND CHALLENGES

The development of SMEs in Malaysia started from the early 1970s when the Government introduce the New Economic Policy (NEP) in 1971. The purposes of this policy are to improve people’s welfare and restructure ethnic economic imbalances (Saleh and Ndubisi, 2006). The need in strengthening SME development is crucial since it is expected to be an integral component of Malaysia to achieve sustainable economic growth and developed country status by year 2020 (MITI, 2006). In 2008, the development of SMEs in Malaysia represents 99.2% of total business establishment in the country. The Government also has allocated RM 3.2 billion for 198 SME development programmes across all economic sectors. In response, the number of applications for grants and financial schemes was increased. Therefore, SMEs could improve their own capabilities, market access, and the quality of products and services to fulfil a lot of demands from society (SMIDEC, 2009a).

Generally, most SMEs in many countries face severe and numerous problems and challenges (Saleh and Ndubisi, 2006). Bentley-Jennison (2006) reports that the major challenges faced by SMEs are business versus personal, business planning, decision making information, management experience, people, cash flow, profitability, and succession planning. Similarly, Wang (2003) claims that many challenges facing SMEs in globalised world, namely, lack of financing, low productivity, lack of managerial capabilities, access to management and technology, and a heavy regulatory burden. In the Malaysian context, SMEs face many similar problems which could hinder their competitiveness and efficacy. Table 2 shows the problems of Malaysian SMEs. There are several areas of concerned by the majority of SMEs in Malaysia: (i) access to export market, (ii) inadequate technological capability, and (iii) low adoption in enabling technologies (EPU, 2006).

Table 2: The problems faced by Malaysian SMEs

a)	lack of awareness and knowledge in obtaining funds from financial institutions and the government
b)	a lack of human capital as the most significant challenge
c)	high level of competition in international market
d)	shortage in accessing to ICT and technology development. This shortage could hinder SMEs to be more efficient and productive in their business operations
e)	a high level of bureaucracy in government agencies
f)	a very low allocation in research and development (R&D) activities
g)	a substantial orientation towards the domestic rather than international market place

Source: Saleh and Ndubisi (2006)

Furthermore, Malaysian SMEs were obstructed by the same issues since 1990s: (i) high price of IT implementation, (ii) lack of trained personnel, and (iii) unclear on the tangible and intangible benefits. Added to that are two unique issues hurting Malaysian SMEs today; firstly, Malaysian mindset, and secondly, critical mass (Omar and Hamid, 2006). However, these two issues are difficult to be expelled and changed amongst Malaysians.

The development of competitive and resilient SMEs is an integral component of initiatives in Malaysia. It requires SMEs in Malaysia to raise efficiency levels, strengthen inter-firm linkages, and respond timely to market changes. At the same time, greater integration into the global economy also provides opportunities for SMEs to participate in the international SC activities (MITI, 2006). Malaysia also faces several challenges in order to achieve sustainable economic growth and the status as a developed country by year 2020. These challenges will develop SMEs to be more competitive and resilient in the global market. Most of Malaysian companies (both multinational and SMEs) are facing several challenges in order to manage its SC activities, namely: (i) mix of traditional and modern distribution channels, (ii) more demanding customers, increasing competition, consolidation, and rationalisation of industries, (iii) difficult to access sophisticated SC capabilities, (iv) technology, and (v) internet uptake and the movement from reactive to collaborative position (Ogulin, 2003).

In addition, new challenges also affect the performance of Malaysian SMEs: (i) strengthen on the capacity and capability to compete in global market, (ii) high competition from other countries (e.g: China and India), (iii) a firm's expansion capability to meet the challenges of market liberalisation and globalisation, (iv) a firm's capacity to improve on technology management and knowledge acquisition, (iv) the escalation of productivity and quality output, (v) new entrants to the market, (vi) strengths in the skills to enter to new business environment, (vii) extensive access to finance and capital facilities, and the basis of venture funds in initial or mezzanine financing, (viii) high cost to the infrastructure and technological development, and (ix) a lack of general knowledge and information (MITI, 2006; Saleh and Ndubisi, 2006; SMIDEC, 2002). However, Ting (2004) has summarised several key points that challenge the performance of Malaysian SMEs, amongst which are: (i) lack of access to loans and financing, (ii) human resource constraints, including lack of management skills, (iii) inability or limited adoption of technology, (iv) lack of obtaining information on potential markets and customers, and (v) to confront with global competitors. Therefore, SMEs should cover-up all of these challenges in order to be more competitive in today's world of globalisation.

These problems and challenges are more critical during the economic crisis of 1997/98 and presently. In 2008, SMIDEC and the Federation of Malaysian Manufacturer (FMM) have been cooperated to carry out a survey purposely for evaluating, giving recommendations, and taking necessary measures to alleviate the adverse impact of the economic crisis on SMEs. The result of the survey concluded that for the Fourth Quarter (Q4) of 2008, more than nine percent of the

respondents indicated that their sales-export and sales-domestics had been badly affected by the crisis (SMIDEC, 2009a). The result proves that economic crisis tends to create and develop the challenges to SMEs to cope with. All of these problems, obstacles, and challenges will be discussed briefly at the next section.

3. SUPPLY CHAIN OPERATIONAL CAPABILITIES (SCOC): THE THREE FACTORS

There are three factors of SCOC should be highlighted: (i) logistics capability, (ii) technology capability, and (iii) structure capability. In this paper, all of these factors will be analysed in conjunction with SMEs in the Malaysia business perspective. These factors are inspired from the previous studies (Handfield and Withers, 1993; Kim, 2006a; Kim, 2006b; Morash, 2001; Tracey et al., 2005; Zulkiffli et al., 2009). However, all of these studies were done on Korea, Japan, and US business perspectives. These are believed to have a lot of differences with Malaysian environment. Morash (2001, p. 37) defines supply chain (SC) capabilities as “the building blocks for supply chain strategy and a source of competitive advantage for firm success”. Based on the definition, scholars give different arguments on the interest of SCOC. Firstly; companies should consider several dimensions to improve its SCOC as suggested by Ogulin (2003). Secondly; it is difficult to improve the efficiencies of SCOC individually (Kim, 2006a), and thirdly; SCOC contributes to the development of competitive advantage and business performance of a firm (Tracey et al., 2005).

In the previous section, it states clearly that Malaysian SMEs are facing the difficulty to access to the sophisticated SC capabilities. It also explains several problems, obstacles, and challenges faced by Malaysian SMEs. The next section discusses how SCOC relates to Malaysian SMEs in order to improve its inside and outside SC activities.

3.1. Logistics Capability

Firm should realise the importance of logistics capability for daily operations activity. There are several discussions that relate to this capability. These discussions are inspired by a study of McGinnis and Kohn (1993) that focuses on logistics strategy within the U.S. manufacturing firms. Two strategies (i.e: process and market) become the most important strategies to serve the regular customers. Both strategies are contributed by customer service commitment, logistics coordination effectiveness, and company or division competitive responsiveness. Therefore, firm should concentrate on its logistics capability that contributes to the performance in terms of increase the revenue and at the same time, reduce any associated costs (Lynch et al., 2000). The relationship between logistics capability and performance could be contributed by the integration activities with any other functional areas such as marketing, finance, and operations (Ellinger et al., 2000).

Besides, the contribution to the company's performance is also related to the adoption of third party logistics (3PL) or logistics outsourcing, and it will improve a firm's capability in logistics activity (Cho et al., 2008). Most scholars ascertain that firm's performance and logistics capability are related to each other either in the context of traditional or new markets development (Cho et al., 2008; Ellinger et al., 2000; Morash et al., 1996). However, this capability also contributes to the differences in opinion. The differences could arise in the implementation methods, such as leveraging third party's expertise. In fact, different countries have different capability in managing their logistics activities. For instance, Indochina countries (i.e.: Cambodia, Laos, Myanmar, and Vietnam) are less efficient in their logistics operations than in any developing countries in the same region (Goh and Ang, 2000). Today, the growth of 3PL and outsourcing activities become the latest trend amongst companies in Malaysia. According to Sohail and Sohal (2003), most of the companies are satisfied with the services provided by 3PL as it encourages positive developments within the organisation. However, there are differences between Malaysian companies and

Singaporean companies. Majority of Malaysian companies utilising 3PL to enter international market, whereas Singaporean companies using the services mainly for domestic market only (Sohail et al., 2006). Most of the Malaysian companies utilise 3PL because it benefits them with cost and delivery lead time/time saving compared to a good customer service (Mustaffa and Potter, 2009).

Table 3: Logistics capability and performance measurement

Scholars	Objectives	Sample	Performance Measurement	
(Morash et al., 1996)	To identify whether strategic logistics capabilities contribute significantly to superior company performance and sustainable competitive advantage	CEO's of all U.S. furniture firms that had more than \$10 million in annual gross sale revenue	Positive and negative (according to the characteristics)	Return on investment Return on assets Return on sales
(Fawcett et al., 1997)	To explore the contribution of logistics to firm performance by developing a measure of logistics capability and regressing it on a measure of firm performance	Senior U.S. managers of Mexican production-sharing operations	Positive	Firm performance (sales growth, return on assets, market share, customer service, competitive position)
(Ellinger et al., 2000)	To determine the integration between functional areas: marketing and logistics	Logistics managers from U.S. companies that listed at the 1996 Council of Logistics Management (CLM) Membership Roster	Positive	Distribution service performance
(Shang and Marlow, 2005)	To examine the relationships among logistics capabilities, logistics performance, and financial performance	1,200 manufacturing firms in Taiwan	Negative	Financial performance through logistics performance
(Yong et al., 2007)	To determine the relationship between logistics capabilities and supply chain performance	1,000 industrial firms in Mainland China	Positive Negative	SC performance Financial performance
(Cho et al., 2008)	To examine the impact of logistics capability and logistics outsourcing on firm performance in an e-commerce market environment	Computer and consumer electronic industry	Positive	Firm performance

In addition, firms also should consider developing relationship between two parties: seller and buyer to have a good relational exchange (Benton and Maloni, 2004; Dahlstrom et al., 1996; Lau and Goh, 2005; Parsons, 2002; Walter et al., 2001). For example, many buyers develop single source supplier in their business activity. Thus, several aspects should be considered by each player in the market: (i) pressure to increase quality, (ii) reduce inventory, (iii) develop just-in-time (JIT) systems, and (iv) decrease time to market (Wilson, 1995). However, a bridge to these aspects is firms cannot have a good linkage with several suppliers in one time (Wilson, 1995). Indeed, to improve the logistics capability, top managers of each company have to take part in developing a good logistics capability with their supply chain partners. Thus, several factors, namely, flexibility, benchmarking, and information-based capability should be reinforced among them (Shang and Marlow, 2005).

In the Malaysian context, one of the problems facing by SMEs is lack of foreign channels of distribution (Zain et al., 2007). Therefore, firms should realise to the importance of having a good and capable logistic activity such as developing channel distribution (Gill and Allerheilgen, 1996), distribution planning (Waller, 1995), and delivery process (Kallio et al., 2000). Hence, logistic capability could be improved once firms employ an international production-sharing strategy in their activities (Fawcett et al., 1997). Table 3 summarises the relationship between logistics capability and performance measurement.

3.2. Technology Capability

Since this study focuses on the development of SCOC in an organisation, the implementation of technology capability should also be considered. However, most of the study relates information technology (IT) as part of technology capability. Handfield and Withers (1993) claim that technology capability is applied differently depending on different situation. The same situation also occurs in Malaysia. When government change its policies, it will affect SMEs directly or indirectly. In addition, the type and size play an important role in defining the function of IT usage in a firm. The usage rates of IT are different between small and large firm, and also between socialist and capitalist firm (Dawe, 1994; Handfield and Withers, 1993). Furthermore, small firm should give more consideration on the adaptation of new technology rather than large firm (Kennedy and Hyland, 2003). Figure 1 clearly shows that in the expansion stage, all enterprises in Malaysia focus on technology capability and ICT capability (in this study we refer as part of technology capability). Therefore, it summarises that these capabilities also play an important role in the accretion of Malaysian SMEs.

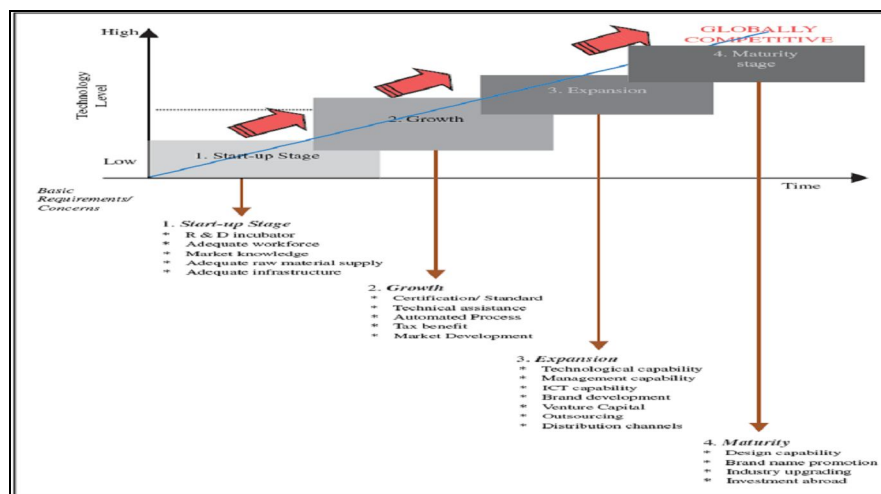


Figure 1: Phases of enterprise development in Malaysian SMEs

Source: SMIDEC (2002)

There are several factors that hinder firms from implementing IT successfully: (i) very complex, (ii) require high cost, (iii) failure in deciding the strategy and outsourcing activities, and (iv) lack of technological knowledge development (Dawe, 1994; Handfield and Withers, 1993). On the other hand, firms have to ponder to develop its IT as a method to build SCM networking to be more effective and efficient. Thus, firm should concentrate to improve its procurement operations, logistics and manufacturing support (Tan, 2002), and also actualising the advanced manufacturing technologies (AMT) (Jonsson, 2000; Kennedy and Hyland, 2003; Sethi et al., 2007; Small, 1999). Today, most of the established organisations worldwide acknowledge the importance of IT on their performance (Sayuti, 2007).

As mentioned earlier, Malaysian SMEs lack in the development of technology capability and also low adoption of enabling technologies (EPU, 2006). In conjunction with those issues, Malaysian SMEs need to upgrade their technology capability to be more competitive in an international market (Saleh and Ndubisi, 2006). This opinion is also supported by Sayuti (2007). To be more competitive in today's global market, Malaysian SMEs should focus in developing learning organisation by continuously adopting technology in their operations system (Sayuti,

2007). Therefore, Table 2 shows that one of the problems faced by Malaysian SMEs is the implementation of ICT and technology in daily business operations.

Furthermore, the consideration on the importance of technology capability in research and development (R&D) activities should be stressed on the high level of technology development. The purpose is to influence knowledge transfer between headquarters and R&D labs in overseas (Song and Shin, 2008). Therefore, firms also should set up a transfer technology unit (TTU) or an indigenous technology unit (ITU) to support such activities (Fang et al., 2002). However, according to Figure 1, basically R&D activities are applied to SMEs in ‘start-up stage’ than other stages in order to move the company to the higher-end of the value chain (Saleh and Ndubisi, 2006).

As an encouragement method, in 2008, Bank Negara Malaysia (BNM) has allocated RM 500 million to SMEs to develop an SME Modernisation Facility to modernise their operations activities. The allocation is to purchase and upgrade machinery and equipment (SMIDEC, 2009a). BNM is also exempts import duty and sales tax to all the machineries and equipments to be used directly in SME operation activities (SMIDEC, 2009a). Thus, this method would support SMEs to affix their assets and would understand that these assets constitute to the technology capability efficacies. Table 4 shows several studies in different perspectives of technology capability.

Table 4: Different opinions on technology capability

Scholars	Objectives	Sample	Findings
(Handfield and Withers, 1993)	The adoption of IT in four different countries: Hungary, China, Korea, and Japan according to the various policy and government regulations on logistics and manufacturing activity	Global Manufacturing Research Group database of four countries in two different industries: non-fashioned textiles and machines tools	Three problems: firm size, lack of technical knowledge, and lack of managerial skill
(Dawe, 1994)	The planning to implement IT for current and future logistics activity via three types identified “core” technologies: data collection and storage, data communications, and data processing	Northern California Electronics Manufacturers	No relationship of IT usage in terms of company age and logistics organisation
(Closs et al., 1997)	The usage of IT as a logistics resources and competitive weapon	Firms from North America, Europe, and the Pacific Basin	IT capabilities positively influence overall logistics competence
(Kennedy and Hyland, 2003)	Comparing the past use, payoffs, and expected future use by large firms and SMEs of a range of AMT and its improvement programs	SMEs and large firms from International Standard Industrial Classification (ISIC)	SMEs used AMT less than large firms
(Mohannak, 2007)	Focus on competency enhancement of Australian SMEs by adopting high technology of innovation	Australian SMEs: Biotechnology and ICT sectors	Firms will rely less on local scientific and technology capability in future

To summarise, even though there are a lot of methods to realise the importance of logistics or SC activities, Malaysian SMEs should give more consideration to monitor these methods frequently. It is because technology is having tremendous transformation from time to time. Usually, firms do not realise the importance of collaboration and establishment of a good relationship with other external parties such as government, universities, and public research organisation in developing technology application among SMEs in Malaysia. Due to firms’ unconsciousness, it will affect to the awareness of technology capability; yet, firms will be less competitive in the real professional milieu situation.

3.3. Structure Capability

Another enabler necessary for successful SCOC is structure capability. Structure capability could be referred to 'people'. People are the most important element that contributes to the development of structure capability. Mostly, the success of an organisation is supported by its 'people' rather than its 'products'. It is proved by the various corporate statement of the organisations that proclaim 'people' as the most important asset than others (Zairi, 1998). There are two important structures that contribute to the prosperity of a firm: internal and external structure. The internal structure is "the allocation or assignment of roles and relationships within the firm" (Bowersox and Daugherty, 1995, p. 71). Therefore, firm must consider several functional tasks to be controlled such as sales/marketing, accounting, manufacturing/operations, and logistics based on their capabilities and core competencies (Rao et al., 1994). Besides that, firms also should consider its external structure. This type of structure entails a good alliance between trading partners or channel members and the firm (Bowersox and Daugherty, 1995).

To make its functional tasks to more efficient, companies should formalise the operations activities. This formalisation is influenced by technology, size, and organisational traditions (Hahn, 2007). However, different companies are influenced by different types of formalisation. It can be concluded that large companies do need the formalisation structure more than small companies do. Besides that, small firms are also structured by coordination and control systems (Pelham and Wilson, 1996). In addition, the success of a firm is also generated by its people. Therefore, managers must have a good knowledge to deal with other people, either inside or outside their organisation (Handfield and Withers, 1993). Similarly, firm also must train its managers to be more capable to direct their energies towards desirable goals and achievement (Kumagai and Kleiner, 1995). For example, logistics managers must be trained in order to achieve company's logistics strategies (Rao et al., 1994). In addition, there are several scholars who focus on 'empowerment' as another aspect of structure capability (Kumagai and Kleiner, 1995; Mills, 1995; Pastor, 1996; Pechlivanidis and Katsimpra, 2004). As a classic example, Toyota has implemented the empowerment aspect in attempt to achieve its strategic and operational goals (Mills, 1995). Sometimes, firm also needs to use 'computerised decision support systems' (Rao et al., 1994, p. 260) to make any decision than empowerment. This system also could be linked as part of technology capability. Table 5 shows the findings of structure capabilities from different perspectives.

In Malaysian perspective, SMEs strongly rely on their 'people' to produce a good product to supply to the entire market. By referring to a study on SMEs in Malaysia, it can be concluded that 38.5% of the problems reported as shown at Table 2 by the SMEs owners or managers indicate connection in such aspects as: (i) human resource management (HRM), and (ii) shortage of skilled workers (Sayuti, 2007). Therefore, SMIDEC has introduced 'Skills Upgrading Programmes' to enhance the skills and capabilities of SMEs through training activities (MITI, 2009; SMIDEC, 2009b). Furthermore, SMIDEC also collaborate with other organisations to give training to SMEs. There are 43 organisations including higher education institutions that will give different trainings based on the needs of SMEs (SMIDEC, 2002). The reaction from employees who received trainings under this program in 2008 is increase to 178% than in 2007 (MITI, 2009).

Table 5: Structure capability and its findings

Scholars	Objectives	Sample	Findings
(Lorange et al., 1992)	To determine the importance of strategic alliance to a firm with four generic motives: defend, catch-up, remain, and restructure	-	To success, firm should perform more alliance with other firms
(Pelham and Wilson, 1996)	To determine market orientation's relative impact on small-business performance, compared to other influences in an integrated	Small-sized firm	Organisation structure of a small firm has a weak relationship on business position and profitability

	model using longitudinal data		
(Pyke et al., 2002)	To understand several important dimensions of Chinese manufacturing firms To examine whether firm size is a better explanatory variable than ownership structure	120 manufacturing state-owned enterprises (SOEs) in Shanghai region, China	Ownership structure is more important explanatory variable than firms size If a firm provides workforce training, responsibility, and motivation, it will influence the firm's profit
(Pechlivanidis and Katsimpra, 2004)	To explore the role of the manager-leader when decisions are being implemented	43 medium private-owned companies in Greece	Subordinate is encouraged to participate in decision making The success of manager-leader is influenced by peers, superiors, and external constituencies
(Bernard and Jensen, 2007)	The importance of firm structure in the operating decision to close a plant. Three aspects are considered: existence of other plants, effect of operations outside U.S., and effect of change in ownership on plant survival	Plants owned by U.S. and listed at the Longitudinal Research Database (LRD) of the Bureau of the Census 1987-1997	Plants owned by multiunit firms and U.S. multinationals are expected to close

4. CONCLUSION

Drawing on earlier works, this paper has examined, reviewed, and analysed studies that address the importance of SCOC in Malaysian SMEs. The literature review highlighted three major of SCOC factors significant to the SMEs in Malaysia: logistics capability, technology capability, and structure capability. Indeed, scholars argue that these factors impact the operations at the business level activity. This review also concluded that the Government has implemented many programs designed to strengthen the performance of Malaysian SMEs including collaboration with BNM. For example, the Government has developed several programs such as 'Policy Initiatives in SME Development', 'Performance of Financial Assistance Schemes', 'SME Development Programmes', 'International Cooperation', and 'Outreach Programs' to improve and enhance the contribution of SMEs to the economy stability (MITI, 2009). However, Malaysian SMEs should not only rely on Government assistances and initiatives. They should attempt to apply a new strategy and to discover their opportunity and capability which it can be a value-added to access new markets, increase revenue, and expand their market segmentation.

It has been proved that the barriers and obstacles will lead to undermine the performance of Malaysian SMEs (Saleh and Ndubisi, 2006). Malaysian Government believes that only SMEs which are capable of harnessing technology and knowledge to develop high-value added products and services will be able to compete globally (MITI, 2006). However, this belief is ruined by the 'Survey on Global Economic and Financial Crisis 2008' that is summarised at the SMIDEC 2008 Annual Report. According to that survey, majority of the SMEs are relying on domestic market and source their input locally. Yet, they are not capable to focus to the international market (SMIDEC, 2009b). It can be concluded that majority of Malaysian SMEs face the same problems, obstacles, and challenges which are related to the technology and people development. Therefore, the awareness on the importance of SCOC can bring many advantages to the operation activities of Malaysian SMEs. Indeed, more focus should be given to the development of technology capability, as it is a main weakness of Malaysian SMEs. Thus, by developing the best technology, the performance of Malaysian SMEs could be improved.

However, this paper shows two gaps from the literature analysis of SCOC in Malaysia. Firstly, most of the Malaysian Government related agencies and SMEs realise the importance of such capabilities in their operation activities, however, there is no action has been taken to fully-utilised such capabilities in their organisation. Thus, aggressive action should be taken in order to develop the awareness of capabilities that are significant to Malaysian SMEs. Secondly, previous studies are focused mostly at large firms than small and medium-sized firms, and most of these

studies are focused in developed countries such as U.S. Therefore, this study focuses on SMEs companies in Malaysia, as a developing country in Southeast Asia.

5. FURTHER RECOMMENDATIONS

This study suggests that Malaysian SMEs should focus on the issues being discussed above. As part of SC activities, the improvement on inside and outside-firm's capability, capacity, and flexibility should be considered (NSDC, 2008). Therefore, firms should remove any barriers that inhibit the SC activities both inside and outside the firm. In addition, Malaysian SMEs should apply new strategies and improvement methods strictly. It is because of the changes at demand pattern in the domestics and international market, or within regional firms in an industry. Furthermore, any activities that relate to the productivity and competitiveness enhancement must be encouraged by the Government, SMEs-related agencies, companies, and individual. Indeed, the value-chain activities also must be improved to venture into new areas of competitive advantage, including the usage of new and efficient delivery channels (NSDC, 2008). Finally, the focus also should be given to R&D investment in order to be more competitive in the international market.

According to the above analysis, Malaysian SMEs is encouraged to develop its technology capability. Both Government and industry have to develop a good collaboration and cooperation amongst each other in order to discover future's industry requirement. The consultation with industry technology experts must be applied (Zulkiffli et al., 2009). There are three groups of functional technologies that should be implemented in the various sectors of SMEs in Malaysia: (i) business process technologies, (ii) design and manufacturing process technologies, and (iii) materials and product technologies (SMIDEC, 2002).

Finally, the 'SME Competitive Rating Enhancement' (SCORE) assessment should be expanded to be implemented to all SMEs, SMEs-related agencies (such as SMIDEC, and Perbadanan Usahawan Nasional Berhad). This assessment is important to measure and rate the performance and capabilities of SMEs in Malaysia (SMIDEC, 2009a).

Notes:

1. In 1996, SMIDEC was established to assist SMEs development in Malaysia.
2. On 1st September 2009, SME Corp was established as a rebranded version of SMIDEC. It becomes a 'one referral centre' to facilitate effective outreach programmes to SMEs.

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