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## Adoption of supply chain management in SMEs

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### Abstract

There has been a massive surge of interest in supply chain management (SCM) due to its innovation approach to business and competitive advantage. Large companies are well recognized the benefits of SCM, but small and medium enterprises (SMEs) are lagging behind in appreciating how integrated supply chain drives remarkable changes in business processes and work with positive results in better quality services, cost reduction and efficiency. Specifically, SMEs in Malaysia have insufficient knowledge on SCM and they underestimate the potential benefits of SCM. As SMEs is important growth engines in Malaysia, therefore, a great potential can be discovered to develop Malaysian SMEs through SCM. As such, this article includes a discussion of the applicability of SCM to SMEs by highlighting the needs and challenges of SMEs. The paper concludes that implementation of SCM could deliver a number of potential benefits to SMEs.

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### 1. Introduction

In today's increasingly globalized economy, small and medium enterprises (SMEs) are now considered to be the major source of dynamism, innovation and flexibility in emerging and developing countries, as well as to the economies of most industrialized nations. They contribute substantially to economic development and employment generation (Koh *et al.*, 2007). SMEs form as a potential economic back-bone of many regions and make a large contribution to employment than large firms (Peng, 2009). A similar trend exists in Malaysia too where SMEs have potential to be a powerful

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engine growth and innovation with the constitution of 99.2 per cent businesses (RMK10: 2011-2015). As SMEs are important growth engines in many countries, therefore, a great potential can be discovered to develop Malaysian SMEs through supply chain management (SCM).

The survival and growth of SMEs can be difficult in current competitive business environment and global marketplace; customers are more demanding to have better and cheaper products, higher service levels, more product varieties and faster delivery (Chow *et al.*, 2008; Ketchen *et al.*, 2008). In addition, the changes of business models such as lower production cost, delivery of ever-increasing customer value, flexibility with superior service and the pervasive impact of information technology (Chandra and Kumar, 2000) are increasingly creating mammoth challenges for businesses to survive. These challenges stress the importance of managing cross-boundary relationships between business partners. Therefore, many companies have begun to identify that today competition occurs between supply chains networks rather than individual firms (Li *et al.*, 2005; Koh *et al.*, 2007; Chow *et al.*, 2008). To gain competitive advantage, SCM is one the effective tool to achieve it (Li *et al.*, 2005; Ketchen *et al.*, 2008).

SCM is a holistic approach to demand, sourcing and procurement, production and logistics process management (Chow *et al.*, 2008). It is a network consists of all parties involved directly or indirectly which includes manufacturer, supplier, retailer, customer and so forth, in producing and delivering products or services to ultimate customers – both in upstream and downstream sides (Mentzer *et al.*, 2001) through physical distribution, flow of information and finances (Stock and Boyer, 2009). As SCM is undergoing a major transformation (Melnik *et al.*, 2009) and evolving rapidly; modern SCM concept in the new economy incorporates strategic differentiation, value enhancement, operational efficiency improvement, cost reduction (Bidgoli, 2010), supply chain integration and collaboration, operational excellence and virtual supply chains (Chow *et al.*, 2008).

The field of SCM has evolved rapidly. Formerly focused on internal integration (Monczka *et al.*, 2009) and now focused on supplier (Lummus and Vokurka, 1999) and customer (Lagrosen, 2005) to reach optimal levels of performance. American and European SMEs are well recognized the benefits of integrated supply chain through collaborative relationships (Mudambi *et al.*, 2004; Meehan and Muir, 2008), but Asian companies are lagging behind in appreciating how integrated supply chain drives remarkable changes in business processes and work with positive results in better quality services, cost reduction and efficiency (APO, 2002). In fact, it is evident that SMEs in Malaysia still lack a strong awareness of practicing effective SCM concepts (UPS, 2008). Malaysian SMEs underestimate the potential benefits of SCM. They viewed SCM as a means to cut cost, quality assurance or maintain control through visibility of the supply chain (UPS, 2008). This is consistent with the study of Rahman *et al.* (2011), in which the majority of Malaysian SMEs have insufficient knowledge on SCM. It is obvious that in attempt of managing and responding to the increased complexity of markets, technologies and suppliers, Malaysian SMEs will struggle even more with SCM as compared to large enterprises.

## **2. The Importance of SCM to SMEs**

The main focus of SCM is to provide right product to the right customers at the right cost, right time, right quality and right quantity (Basher, 2010). Meanwhile, the short-term strategic goal of SCM is to reduce cycle time and inventory and thus increasing productivity, whereas the long-term goal is to enhance profits through market share and customer satisfaction (Tan, 2002). Quantified benefits of SCM include lower supply chain costs, overall productivity, inventory reduction, forecast accuracy,

delivery performance, fulfilment cycle time and fill rates (Mohanty and Deshmukh, 2005). SCM delivers improvement up to 60 per cent, which ranges between 10 per cent and 60 per cent. Fulfilment cycle time records the highest improvement from 30 per cent to 60 per cent (Mohanty and Deshmukh, 2005). In the context of SMEs, cost effective SCM is critical for its survival and growth as purchasing cost makes up the largest share in sales revenue – approximately 80 per cent (Quayle, 2003). A SMEs study in Merseyside, United Kingdom revealed the perceived benefits of SCM to SMEs. The potential benefits include increased customer service and responsiveness, improved supply chain communication, risk reduction, reduced product development cycle time processes, reduction in duplication of inter-organizational processes, inventory reduction and improvement in electronic trading (Meehan and Muir, 2008). In another study involving SMEs manufacturing companies in Turkey, found that the execution of SCM practices could deliver benefits to SMEs in terms of reduced inventory level, reduced lead time in production, increased flexibility, forecasting accuracy, cost saving and accurate resource planning (Koh *et al.*, 2007).

### 3. Adoption of SCM in SMEs

This section includes a discussion of the applicability of SCM to SMEs by highlighting the needs and challenges of SMEs. In comparison to monolithic enterprises, SMEs with flatter structure and less management levels, making the organizational culture is easier to change (Gourova, 2010), further shorten the communication line within and across the teams (Aragon-Correa *et al.*, 2008) and encourage efficient and informal communications (Levy *et al.*, 2001). In regard to their organizational structures, SMEs have the advantage of initiating and implementing changes, for example, the owner or the leader can facilitate a change initiative across the organization easily since fewer departmental interfaces are involved (Wong and Aspinwall, 2004). The flat organizational structure of SMEs can facilitate the changes of SCM implementation.

Although SMEs are faced with complexity and uncertainty, however, SMEs are usually strong in innovation and evolution. Small firms innovate more than twice per employee than do monolithic firms (Acs and Audretsch, 1991). Also small firms contribute two to four times more innovations per dollar of research and development (R&D) than large counterparts (Plehn-Dujowich, 2007). In a study of SMEs in Northern Ireland, there is an association between SME organizational size categories and various aspect of process and product, people, leadership and culture, information and knowledge management, and total quality management (TQM) to innovation (McAdam *et al.*, 2004)

Dynamism of SMEs in industrial economies offers the small-scale sector to become major contributors to economic growth. Their smaller size enables SMEs to be easier to manage (Hauser, 2005) and flexible in adapting the way they do their work and developing a better solution. In fact, SMEs can overcome the disadvantage of size limits by bringing lots of creativity into the offered products and services via R&D (Ebrahim *et al.*, 2008). In most developed countries, SMEs are flexible to try new and untested technologies; this advantage is essential to encourage dynamic efficiency within SMEs' industries (ADB, 2009). Additionally, smaller firms are more agile in their internal operations and adapt quickly to the volatile market conditions (Lazarica, 2009). SMEs can adapt quickly to the demand changes and market turbulence with SCM implementation.

SMEs have a smaller number of customers (Thakkar *et al.*, 2009). Majority of the SMEs' demand is dominated by major customers or stronger customers (Pittaway and Morrissey, 2004); consequently, they build closer and long lasting relationships with customers or develop more personal relationships with customers (Hong and Jeong, 2006). This view is echoed by Bhutta *et al.*'s study (2007) who found

that most small firms in Pakistan maintain a long-term relationship with their customers and most of the firms have engaged more than 10 years business relationship with their two major customers. Closer relationship with customer brings higher SCM performance to the company (Thoo *et al.*, 2011).

Small firms face resource gaps in terms of financial, skills, knowledge and technology (Hashim, 2007); therefore, they tend to depend on suppliers' capabilities and co-operative relationships (Park and Krishnan, 2001; Mudambi *et al.*, 2004) to access the latest technologies, materials, process and other methods of innovations (Koh *et al.*, 2007). This is broadly in line with Lipparini and Sobrero's (1994) findings, who reported that SMEs often depend on the supplier relationship as a key ingredient to connect internal and external capabilities and expertise, as well as improve their innovation. Small companies build deep suppliers relationships with hopes to increase the stability of supply and reduce supply shortage risk (Ellegaard, 2006). Through maintenance of close relationships with suppliers, suppliers are more prepared to help when the demand is high in order to satisfy customer requirements (Fawcett *et al.*, 2008).

Small firms depend on the capacity and competency of their owner-manager to run the businesses. The owner has a central role within the organization; the owner can develop SCM roadmap, which includes partnership alliances, performance indicator, supply chain matrices and perspectives when the business is just started or restructure and change its business practices even though the business is comparatively old (Thakkar *et al.*, 2009). However, small companies often operate with limited capacities in financial, management and personnel dimensions (Anja *et al.*, 2009). In addition, SMEs have limited use of information technology (Dyerson *et al.*, 2009) and often rely on outdated technology (Hendrickson, 2009). Most of SMEs are dominated by their customers (Quayle, 2003). Also, SMEs are pressed by the external pressures such as changes in economic, governmental, political, socio-cultural and technological (Hashim, 2007). These barriers would impede the implementation of SCM in SMEs.

#### **4. Discussion and conclusion**

SMEs can count on the strengths and work out the best from the weaknesses by finding ways to strike a balance between the strengths and weaknesses for SCM adoption. SMEs have been hit disproportionately hard by the severe squeeze in financing, but they have shown a resilience and flexibility that bodes well for their ability to capitalize on the innovation and evolution. The innovation approach of SCM can help SMEs to balance the costs and time constraints (Thakkar *et al.*, 2009). As SMEs are operated and owned independently, the businesses are managed and controlled by the manager-owner. The norms, cultural values and attitude of owners can have a significant impact on the SCM strategy development and application of new information technology. Then is the increasing importance of customer relationship, by which mechanism SMEs may take advantage to take the lead in driving a successful SCM (Meehan and Muir, 2008). Besides, close relationships with customers and suppliers have helped SMEs to develop resilience in adversity despite the constraints faced by SMEs sector such as a weak technological base, limited use of information technologies, as well as manpower poverty. SMEs can depend on the customers' and suppliers' capabilities and co-operative relationships (Park and Krishnan, 2001; Mudambi *et al.*, 2004) to access the latest technologies, materials, process and other methods of innovations (Koh *et al.*, 2007). Finally, the characteristics of flat organizational structure and flexibility making SMEs are well positioned to accept change and implement change management when they start implementing SCM. It is clear that strengths of SMEs can identify strategic challenges and opportunities of SCM in their businesses.

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