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A Literature Analysis on the Relationship between External Integration, Environmental Uncertainty and Firm Performance in Malaysian SMEs

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Abstract

The effect of environmental uncertainty (EU) on the relationship between external integration and firm performance is examined for small- and medium-sized enterprises (SMEs) in Malaysia. Uncertainty is a changeability state of the environment including uncertain market, failure to forecast the impact of changes in environmental, and unable to expect the outcomes of a response choice. SMEs have scarcity resources in terms of financial, skills, knowledge and technology; therefore, the sustainable business successes of SMEs hinge more on suppliers' capabilities and co-operative relationships as well as customer integration. Since SMEs operate under highly competitive environment, thus SMEs need to monitor their environment to identify potential collaborative opportunities with suppliers and customers. In addition, the close relationships with suppliers and customers allow SMEs to access to the latest process, technologies, materials and other methods of innovation. Particularly, there is a lack of studies that investigate the effect of EU on the external integration-firm performance relationship in Malaysian SMEs of manufacturing industry. As such, the implications of the three sources of uncertainty – demand uncertainty, technological uncertainty and competitive threats are discussed. Ultimately, this study could enrich the existing body of knowledge in supply chain integration, EU and performance of SMEs in the manufacturing industry.

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1. Introduction

Small- and medium-sized enterprises (SMEs) form the potential economic back-bone of many regions and make a greater contribution to employment than large firms (Peng, 2009). A similar trend also exists in Malaysia, where SMEs constitute 97.3% of businesses and have the potential to be a powerful engine for growth and innovation (SME Annual Report, 2011/12). Malaysian SMEs are distributed in four broad economic segments: services, manufacturing, basic raw material producers and agriculture (Hashim, 2007). In terms of gross domestic product (GDP), SMEs contributed 32.5% of the GDP in 2011 and recorded a relatively strong GDP (6.8%) compared with the overall economy (5.1%). The manufacturing sector achieved the highest growth (7.6%), followed by both the agriculture and services sectors (both 6.4%) (SME Annual Report, 2011/12). However, if compared with industrial and other developing countries, the contribution of SMEs to the Malaysian economy is relatively low. Developed countries such as Japan and Germany have a contribution of more than 50% GDP. Even in developing country such as Thailand, SMEs play a significant role in the economy with 38% of GDP (SME Annual Report, 2009/10). Since SMEs are important growth engines in many countries, there is a great potential for Malaysian SMEs to develop into the most significant domestic source of growth through supply chain integration.

External integration is now the prevalent practice of supply chain integration across all firms. External integration refers to supplier and customer integration which focuses on dense and interactive relationships development with suppliers and customers. Company extends its scope of firm integration to integrate with supplier and customer through information sharing and collaborative relationship (Stevens, 1989). External integration is a joint collaborative effort between a manufacturer partner and its external partners to develop mutually agreed inter-organisational processes, practices and strategies (Stank et al., 2001). The external integration is trio-fold dimensional: information integration, coordination and organisational linkages to share risks, costs and gains (Lee, 2000). Integrating with supplier is considered the most prevalent practice of supply chain integration (Fawcett and Magnan, 2002). Supplier integration is the interaction between firms and their suppliers in the effort of information sharing, effective alignment and participation (Ragatz et al., 2002). Also, supplier integration involves the coordination of core competencies of firms and its critical suppliers (Bowersox et al., 1999). Supplier integration extends from unproductive arm's-length supply chain relationship to long-term contracts yet cooperative relationship through joint efforts in product development, problem solving, design support and technology exchange (Boon-itt and Wong, 2011). Apart from integrating supply side of a supply chain, demand side can be integrated as well into a synchronised process in order to fulfill customers' demand. Customer integration involves rapid responses to customer's needs and requirements related to better understanding of the customer organisation's product, market and culture (Boon-itt and Wong, 2011).

In today's turbulent global marketplace, the high levels of uncertainties in demand and technological urge the need to promote a highly integrated supply chain (Boon-itt and Wong, 2011; Mentzer et al., 2000; Ragatz et al., 2002; van der Vorst and Beulens, 2002) such as pursuing various supply chain integration practices. The previous studies have suggested that there are two points of view on the roles of demand and technological uncertainty on SCM literature. The first point focuses on a straightforward relationship between environmental uncertainty and supply chain integration (Paulraj and Chen, 2007; Ragatz et al., 2002; Xu et al., 2010; Zhou and Benton, 2007). In the second context, demand and technological uncertainties are considered as exogenous factors in which a company is facing in today supply chains (Boon-itt and Wong, 2011; Iyer et al., 2004). This study applies the perspective of second context which environmental uncertainty is considered as exogenous factor faced by a firm in external integration-firm performance relationship. When the environmental competitiveness is high, firm is capable to expand or modify its current markets, products and services in order to improve business performance (Lumpkin and Dess, 2001). In relation to this study, the main role of external integration is not meant to minimise environmental uncertainties, but to reduce the adverse effects of environmental uncertainties on firm performance. Therefore, it is said that firms that are capable of operating supply chain under competitive environment can outperform those companies that do not.

The environmental uncertainties including technological uncertainty, demand changes and competitive threats are used to explain the effect of environmental uncertainty on external integration-firm performance relationship. Thus, environmental uncertainty is the variable will be used to function as an external variable in achieving higher firm performance in this study. Uncertainty and risk are inherent in every supply chain; customer demand is rarely perfectly stable, machines and vehicles may not work well all the times as well as uncertainty of travel times. Also, a relatively new trend in industry such as offshoring, outsourcing and lean manufacturing, in which total supply

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