

## Chapter 18

# Exporting vs. Domestic SMEs in Malaysia: Do Differences in Technology Adoption and Perceptions Exist?

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### ABSTRACT

*The extent of SMEs' technology adoption in Malaysia has not been clearly reported. This chapter provides an initial snapshot onto the various types of technological tools adopted by exporting and domestic SMEs in Malaysia. It also highlights the differing perceptions held by both exporting and domestic SMEs on certain issues related to the technological, organizational, and environmental contexts that the firms operate in as well as the differences in the owners' characteristics for the two types of SMEs. Through a survey of 540 manufacturing and manufacturing-related services SMEs, the findings revealed that exporting firms generally have higher technology adoption rates than domestic firms. Significant differences between exporting and domestic firms were also found in their perceptions on issues like perceived relative advantage, competitive advantage, information intensity, as well as in the owners' characteristics, such as innovativeness. Implications drawn from the findings are duly discussed in the chapter.*

### INTRODUCTION

Globalization, shortening product life cycle, increasingly demanding consumers, rising labour cost and volatility in input prices have created an environment where it has become mandatory for manufacturers to be flexible, adaptive,

responsive and innovative (Sohal et al., 1999). The key to acquiring such efficiencies lies in the implementation of various technological tools and applications that can help ease the manufacturers in their daily operations. Our current economic times are predominantly a technological epoch, as witnessed by a widespread usage of information

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and communication technology (ICT) through computers and other information systems (IS) not only in the manufacturing and service industry but in telecommunications infrastructure, government agencies, educational organizations, and households (Ghobakhloo et al., 2011).

As far back as 1995, Aggarwal had begun chronicling the adoption of (back-then emerging) technologies in the manufacturing sector. Aggarwal (1995) disclosed that in face of tough competition, American manufacturing companies have employed hard technologies (i.e. machinery or equipment) such as computer-aided design (CAD) or computer-aided manufacturing (CAM), computer-integrated manufacturing (CIM) as well as soft technologies (i.e. programs or philosophies) such as just-in-time (JIT) and total quality management (TQM). At present, most manufacturing firms, large and small, who are seeking out ways to reinforce their competitive positions and improve their productivity (Premkumar, 2003) are consciously turning to the use of technology.

Compared with large organizations, small and medium enterprises (SMEs) are at a disadvantage in terms of technology adoption and usage due to their relatively restricted resources at various levels (i.e. organizational, managerial, technological, individual, and environmental) (Ghobakhloo et al., 2012). Still, such constraints should not hinder SMEs from adopting technology as technology offers major benefits to the manufacturing firm. For instance, information technology (IT) tools assist SMEs through supplying required infrastructure necessary for providing appropriate types of information at the right time. Furthermore, IT can provide SMEs with competitiveness through integration between supply chain partners and inter-organizational functions, as well as by providing critical information (Bhagwat & Sharma, 2007). In short, technology can be a powerful means for manufacturing SMEs to gain competitive advantage by supporting the business processes to produce products or services which

are cost effective and by saving time through the improvement of productive yields (Hussain & Phatak, 2002).

SMEs are significant contributors to a country's economic development. These establishments generally form the largest proportion of businesses within the country. For a developing nation such as Malaysia, SMEs currently constitute 99.2% of total business establishments in the country, contributing 32% of Gross Domestic Product, 59% of employment and 19% of exports (SME Corp, 2013). Their role as an engine of economic growth is particularly substantial in the manufacturing sector. Since 2005, SMEs' growth in the Malaysian manufacturing sector has outperformed the overall sector, with SMEs' share to overall value added of the manufacturing sector rising from 29.3% in 2005 to 30.4% in 2009 (National SME Development Council, 2010).

In order to support SMEs development, the Malaysian government has introduced various science and technology policies and incentives including financial assistance and infrastructures to accelerate technology adoption among local manufacturing SMEs. Despite the government's concerted efforts, there is no evidence that technology adoption and ICT penetration among Malaysian SMEs have reach a much desired level (Saleh & Ndubisi, 2006; Abdullah et al., 2012). Malaysian Prime Minister Datuk Seri Najib Tun Razak expressed concern that the SME community in Malaysia was not adopting technology as rapidly as it should and urged SMEs to adopt technology as a core part of their business strategy in order to gain sustainable competitive edge (The Star Online, 2011, February 12).

## **Rationale for the Study**

As of today, the extent of SMEs' technology adoption in Malaysia has not been clearly reported. Abdullah and Shamsudin (2009) noted that the last comprehensive study on technology adoption

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