

# Chapter 11

## Development of a Scale to Measure Information Technology Capability of Export-Focused SMEs in China

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### ABSTRACT

*This chapter addresses the conceptual and measurement issues related to the study of information technology capability (ITC) in small to medium businesses that focus on exports. The authors review the concept of ITC and its components and reports on the construction and psychometric assessment of a measure of ITC. The authors develop a multi-dimensional scale showing strong evidence of reliability and validity in samples from export-focused SMEs based in Mainland China. Finally, this chapter demonstrates nomological validity by examining the relationship between ITC and export-focused SMEs' performance.*

### INTRODUCTION

Contemporary thinking on organizational capability has been profoundly influenced by the resource-based view of the firm (Barney, 1991; Eisenhardt & Schoonhoven, 1996; Peppard & Ward, 2004). The proponents of this view argue that firms pos-

sess costly-to-imitate capabilities (i.e., unique configurations of resources) that are regarded as the fundamental drivers of superior performance (Bharadwaj, Sambamurthy, & Zmud, 1999). While firm resources may be copied relatively easily, capabilities are more difficult to replicate because they are often tightly connected to the history, culture, and experience of the firm. Recent writings in the IS literature have examined the role of information

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technology capability (ITC) in enabling superior IT-based innovation and business performance (Wang & Alam, 2007) and have emphasized that “technology itself has no inherent value and IT alone is unlikely to be a source of sustainable competitive advantage”; rather, the “business value derived from IT investments emerges only through business changes and innovations” (Pepard & Ward, 2004, p.169).

While some path-breaking work has been conducted on ITC in recent times, much of this work has focused on large firms. However, business models and assumptions that are appropriate for large businesses do not necessarily apply to small and medium sized enterprises (SMEs). This is because SME managers face different opportunities and constraints than managers of large businesses (Hunter, 2004). They typically have fewer financial resources, lower technical expertise and poor management skills. Due to these limited resources, SMEs have started to use IT only recently (Caldeira & Ward, 2002).

As investments in information technology (IT) continue to grow, SMEs managers’ awareness of the need to derive the value of IT is also increasing (Love, et al., 2005; Bruque & Moyano, 2007;). Indeed, Abouzeedan and Busler (2002) argue that information technology is having a profound effect on SMEs’ management. Using IT tools, time-consuming and labor-intensive activities often takes less time and effort. Thus, SME managers are increasingly adopting new IT technologies in all aspects of business activities (Abouzeedan & Busler, 2006; Kim & Jee, 2007). Moreover, efficient and effective management of IT resources is critical for SMEs, not only for competitive advantage but also for mere survival (Montazemi, 2006). Reasons, which were alluded to earlier, include: (a) SMEs tend to generalists rather than specialists, which in turn results in a lack of in-depth IT/IS knowledge and technical skills within the organization; (b) SMEs typically lack the financial resources to develop and maintain a sophisticated IT infrastructure and to train

their IT users; and (c) SMEs simply do not have necessary management and financial resources to correct situations arising from an unwise/unsuccessful IT investment.

Recently, a specific type of SME (i.e., export-focused SME) has been recognized as significant business entities, playing an important role in economies of various countries (e.g., Moen and Servais, 2002; Rennie, 1993). The issue of ITC is particularly important to such firms, which often expand abroad while they are still in their infancy, facing dual liabilities of being both new and foreign. The value-adding processes of these firms are often based on the creation and exploitation of knowledge and knowledge-intensive services. Also, the attention of these firms is typically focused on information acquisition, accumulation, and integration (Knight & Cavusgil, 2004; Nonaka & Takeuchi, 1995), all of which require strong ITC (e.g., Feeny & Willcocks, 1998 a, b). Moreover, these firms need to operate in geographically dispersed uncertain environments, requiring the support of ITC for communication/coordination as well as for information processing (Galbraith 1973; Saunders 2000). The ability to effectively harness IT resources enables these firms to reduce costs, improve customer service, create links with suppliers, differentiate product/services, develop innovations, and thus increase overall firm performance (Kyobe, 2004; Kim & Jee, 2007). There is thus a clear need to study the topic of ITC in the context of export-focused SMEs.

Although such SMEs are found worldwide, they are particularly appealing in developing countries, such as China, where a generation of improved higher education has placed many skilled people into the workforce, but where a large percentage of national income still depends on export sales. In particular, newly-minted SMEs in developing countries tend leverage the Internet and other ICTs to gain regional or global exports. And this means that developing nations might be able to leapfrog the initial stages of internationalization traditionally ascribed to businesses. This

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