ABSTRACT

This paper examines the role of information technology (IT) in enabling organisational agility. The authors focus on two IT capabilities, IT exploration and IT exploitation. On the basis of conceptualisation of the capability lifecycle and a hierarchy of dynamic capabilities, the authors establish a theoretical linkage between lower-order capability and higher-order capability, i.e., IT exploration capability to IT exploitation capability to organisational agility. Using the partial least square approach, the authors empirically test the proposed relationships using data from 289 manufacturers in the Pearl River Delta region of Guangdong province, People’s Republic of China. The authors’ results suggest the positive effects of IT exploration and exploitation capabilities on customer, operational and partner agilities. In addition, the authors find that IT exploitation capability mediates the relationship between IT exploration capability and organisational agility. On the basis of their findings, implications for theory and practice as well as future research opportunities are discussed.

Keywords: Capability Lifecycle, Customer Agility, Hierarchy of Dynamic Capabilities, IT Exploitation Capability, IT Exploration Capability, Operational Agility, Partner Agility

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INTRODUCTION

Agility is one of the key strategies that organisations deploy to cope with highly volatile external and internal changes (Dove, 1999; Dove, 2001; Haeckel, 1999; Kassim et al., 2004; Kidd, 1995; Mathiassen et al., 2006; Sambamurthy et al., 2003; Sharifi et al., 1999; Sharifi et al., 2001). Agility refers to a firm’s ability to respond to unpredictable changes in its environment and, even more importantly, to take advantage of these changes (Dove, 1999; Dove, 2001; Kassim et al., 2004; Kidd, 1995; Sharifi et al., 1999). An agile firm is better positioned to sustain a competitive advantage during times of uncertainty and turbulence in the business environment (Mathiassen et al., 2006; Sharifi et al., 2001).

Recently, the enabling role of information technology (IT) in shaping organisational agility has been gaining popularity (Lee, Sambamurthy, Lim & Wei, 2008; Mathiassen et al., 2006; Tallon, 2008). Overby et al. (2006) propose that IT enables both the sensory and response components of agility by enhancing the reach and richness of a firm’s knowledge base and processes. This is similar to the concept of digital options (Sambamurthy et al., 2003) that describes the flexibility that firms may have to either apply IT-related capabilities to emerging opportunities or remain on the side-lines, depending on the environment and the firm’s strategy (Fichman, 2004). Using survey data from 241 firms, Tallon (2008) finds that technical IT capabilities and managerial capabilities affect a firm’s agility. Furthermore, in a dynamic setting, managerial capabilities are more important than IT capabilities, whereas in a stable setting, IT capabilities are more important. Lee et al. (2008) submit that IT explorative capabilities (ITERC) and IT exploitative capabilities (ITEIC) have a positive effect on both entrepreneurial agility and adaptive agility.

Although the existing research represents great progress in the enhancement of our understanding of IT-enabled agility, there is still more to explore. First, in the theory area, the resource-based view and dynamic capability perspective are the predominant basis for the current literature (Bharadwaj, 2000; Bradley & Nolan, 1998; Weill & Broadbent, 1998; Sambamurthy et al., 2003; Karimi et al., 2007). Both rely on the heterogeneity of firms in their resources and capabilities to explain the sources of competitive advantages. Despite their popularities, an understanding of the source of heterogeneity in resources and capabilities is largely absent (Helfat & Peteraf, 2003). In this research, we introduce a three-stage process of capability evolution based on the concept of the capability lifecycle (CLC) (Helfat & Peteraf, 2003). Specifically, firms first select the appropriate IT resources, then work on turning them into IT capabilities and finally create IT-enabled dynamic capabilities. This framework helps explain the source of heterogeneity due to the differentiation in a firm’s choice of a course of actions in each of the stages.

Second, in the context area, most of the existing literature focuses on developed countries. Although the research provides insight into understanding the dynamics of IT-agility relationships, it does not reveal the ways in which such dynamics may differ in developing countries. Recent research (Johns, 2006) calls for a re-examination of the important role played by context in creating an effect on organisational behaviour. In this research, we focus our study on Chinese manufacturing firms in the Pearl River Delta region of Guangzhou City in Guangdong province. This area is one of most vibrant economic centers in the country. Our study will allow us to understand the dynamics of the IT-agility relationship in a different setting from that of most of the existing studies, i.e., developed countries. The increasingly complex and turbulent business environment in China renders research on organisational agility in this context particularly pertinent and valuable (Huang, Ouyang, Pan & Chou, 2012). Since the admission of China into the World Trade Organisation in November 2001, local Chinese companies and international competitors have made China the manufacturing center of the world. Meanwhile, as China evolves into a consumer society, Chinese consumer markets continue to evolve at a rapid pace. Affluent
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