Information technology resource, knowledge management capability, and competitive advantage: The moderating role of resource commitment

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ABSTRACT

The role of information technology (IT) in knowledge management has always been a debatable topic in literature and practice. Despite existing documentation regarding the relationship between IT resource and knowledge management, limited information is available on the different types of IT resources describing this relationship. We integrate two research streams emerging in knowledge management and extend the literature on IT–knowledge management linkage by investigating the moderating role of resource commitment to invoke a contingent resource perspective. Data from 168 organizations in China provide empirical evidence that three types of IT resources (i.e., IT infrastructure, IT human, and IT relationship) positively affect knowledge management capability (KMC), which is positively related to competitive advantage. Furthermore, this study identifies two positive quasi-moderating effects of resource commitment on the IT resource–KMC relationship. Specifically, resource commitment directly and positively enhances KMC, and strengthens the effects of IT human and IT relationship resources on KMC. We discuss the theoretical and practical implications of the results.

1. Introduction

For decades, the development of information technology (IT) and knowledge management in creating competitive advantage has been one of the leading concerns of managers and scholars. Today's increasingly changing environment makes the emergence of IT-enabled knowledge management capability (KMC) as a core competency for organizations to enhance individual performance, innovation, organizational capabilities, and competitive advantage (Gold, Malhotra, & Segars, 2001; Joshi, Chi, Datta, & Han, 2010; Ko & Dennis, 2011; Tseng, 2014). KMC can be defined as the process-based ability of the organization to mobilize and deploy knowledge-based resources to gain competitive advantage. For example, the German electronics and engineering company Siemens has significantly invested in its ShareNet knowledge management system to improve business operations and create customer value, thereby evolving into a knowledge-based organization (Nielsen & Ciabuschi, 2003). The advent and in-depth use of IT, particularly communication networks and the Internet, have brought a fast, safe, and convenient method of obtaining, sharing, and storing knowledge by increasing collaborations and reducing costs (Mohamed, Stankosky, & Murray, 2006). IT may enable knowledge management to gain competitive advantage. According to the 2015 Knowledge Management Priorities Report, 93% of organizations have specific funds allocated to knowledge management, and 61% positively respond to the future of knowledge management programs (APQC, 2015). Meanwhile, the report also mentions that processes by which technology investment drives knowledge management are less obvious, consequently requiring further examination regarding the linkage between IT and knowledge management. However, Three research gaps can be identified based on previous studies.

First, the relationships between different types of IT resources and KMC remain unclear in previous research and require further investigation. The resource-based view (RBV) regards IT as a

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