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The influence of leadership on product and process innovations in China: The contingent role of knowledge acquisition capability

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ABSTRACT

Building upon upper echelon theory and a dynamic capability perspective, this study investigates the relative effectiveness of two types of leadership on product and process innovations in emerging economies. The authors found that in China transformational-charismatic (TC) leadership has a stronger effect on product innovation, while transactional leadership has a stronger effect on process innovation. The authors further study the boundary conditions of leadership and empirically examine the contingent effects of organizational level capability on the relationships between leadership and innovation. The moderating effects are intriguing: knowledge acquisition capability strengthens the effect of TC leadership on process innovation and that of transactional leadership on product innovation. However, knowledge acquisition capability attenuates the positive relationship between TC leadership and product innovation as well as the positive relationship between transactional leadership and process innovation.

1. Introduction

Innovation is widely regarded as a powerful driver of competitive advantage and business growth (Ar & Baki, 2011; Dess & Picken, 2000), particularly in markets characterized by rapid technological change, dynamic uncertainty and intense competition (Hult, Hurley, & Knight, 2004). Firms seek to survive and grow through innovation, especially in emerging economies (Iyer, LaPlaca, & Sharma, 2006). The fact that the Chinese government considers innovation-oriented development as a key strategy to modernize its economy underscores the importance of innovation in China. Effective leadership facilitates innovation and competitiveness, and is regarded as an important driver of sustainable business growth in emerging markets (Chen, Lin, Lin, & McDonough, 2012). In Chinese firms, leaders play a critical role in the success of their organizations because they are more autocratic and powerful than business leaders in developed countries (Casimir & Waldman, 2007). Therefore, it is important to examine how leadership influences business innovation in China.

Existing studies have examined the antecedents of innovation primarily through three theoretical lenses: leadership quality by the upper echelon theory; managerial factors by the dynamic capability theory; and the business process by process theory (Crossan & Apaydin, 2010). A close examination reveals several limitations in this literature on innovation.

First, existing studies are mainly focused on identifying the determinants of product or service innovation (Atuahene-Gima, 1995; Zhou & Wu, 2010). Despite the fact that a firm's competitive advantage over time depends on both product and process innovations, less attention has been given to the dynamics of process innovation (Damanpour & Gopalakrishnan, 2001). Product innovation refers to the new products or services introduced into the market for the purpose of satisfying customers' wants and needs (Barras, 1986), while process innovation refers to new elements (e.g. new management approaches, production methods and new technologies) introduced into organizations' production and management operations (Ettlie & Reza, 1992; Gopalakrishnan, Bierly, & Kessler, 1999). As the outcome of process innovation is less tangible and less visible to customers, firms tend to overlook the critical role of process innovation (Gopalakrishnan et al., 1999). However, process innovation is just as important to an organization's success as product innovation. On the one hand, process innovation enhances a firm's ability to exploit, maximize, and reconfigure resources and capabilities (Gopalakrishnan et al., 1999), which makes it a critical source of competitive advantage. On the other hand, both product and process innovations have significant implications on a firm's marketing strategy (Gopalakrishnan et al., 1999). While product innovation supports market differentiation strategies, process innovation reduces costs and enhances production efficiency. Given the importance of both types of innovation, we employ a comprehensive perspective by simultaneously examining product innovation and a relatively under-researched form of innovation, process innovation.

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Second, although both transformational and transactional leadership enhance innovation (e.g., Eisenbeiss, van Knippenberg, & Boerner, 2008; Elenkov & Manev, 2005; Gumusluoglu & Ilsev, 2009; Howell & Avolio, 1993), their effectiveness on product and process innovations may differ. Transactional leaders attempt to enhance innovation and manage leader–follower relationships by focusing on exchanges and contingent reward behavior, and by paying close attention to deviations, mistakes, and corrective actions (Bass, 1985; Waldman, Ramirez, House, & Puranam, 2001). Transformational leadership is a style of leadership in which leaders aim to inspire followers by appealing to their high-level needs for self-actualization (Bass, 1985; Vaccaro, Jansen, Van Den Bosch, & Volberda, 2012). Therefore, transformational leadership may stimulate product innovation more effectively than transactional leadership because employees working under a rewards-and-punishment regime (transactional leadership) tend to pursue short-term goals while overlooking the long-term benefits of innovation (Jansen, Vera, & Crossan, 2009). However, transactional leadership may more effectively enhance process innovation by creating an environment of open communication and by increasing employees' compliance with decisions (Elenkov & Manev, 2005; Yukl & Heaton, 2002). Previous studies focus mainly on the effect of transformational leadership on organizational innovation (Chen et al., 2012; García-Morales, Jiménez-Barrionuevo, & Gutiérrez-Gutiérrez, 2012). This study adopts a comparative approach and clarifies the relative contributions of the two types of leadership on product and process innovations.

Third, both transformational leadership and transactional leadership motivate employees to innovate, with the former stimulating creative behavior (Gumusluoglu & Ilsev, 2009; Jung, 2001) and the latter encouraging compliance behavior (Elenkov & Manev, 2005). Despite the significant influence of leadership on innovation, the single lens of upper echelon theory cannot fully explain the dynamics of innovation (Crossan & Apaydin, 2010; West, 2002). New ideas and knowledge generated by employees are necessary but may not be sufficient for innovation, as successful product development also relies heavily on critical knowledge from the external environment to interpret, deploy, and perfect the existing knowledge base (Verona, 1999). An organization's ability to obtain and utilize external knowledge plays an important role in influencing strategy and performance in an emerging market (Aragón-Correa, García-Morales, & Cordón-Pozo, 2007), because firms in emerging markets often lack the experience or knowledge base to create new knowledge internally. As Ellonen, Jantunen, and Kuivalainen (2011) point out, the ability to innovate is idiosyncratic and firms with stronger capabilities are better able to make use of external knowledge in their internal operations and innovation activities. We thus investigate the role of knowledge acquisition capability, a firm's ability to acquire external knowledge, as a moderator of the leadership-innovation link (Crossan & Apaydin, 2010).

Drawing upon the limitations and the unique characteristics of the Chinese marketplace and commercial organizations in China, we develop a conceptual framework (see Fig. 1) that depicts the interplay between leadership and organizational knowledge acquisition capability. Based on the upper echelon (Hambrick & Mason, 1984) and dynamic capability theories (Teece, Pisano, & Shuen, 1997), we first distinguish between process and product innovations and test the impacts of leadership on them independently. Then we examine the relative effectiveness of transactional and TC leadership on the two types of innovation. Finally, we assess whether the effects of leadership on innovation are contingent on an organization's knowledge acquisition capability. Taken together, this study offers deeper understanding of organizational innovation by examining the relative effectiveness of the two types of leadership and by delineating the boundary condition of their influences on product and process innovations.

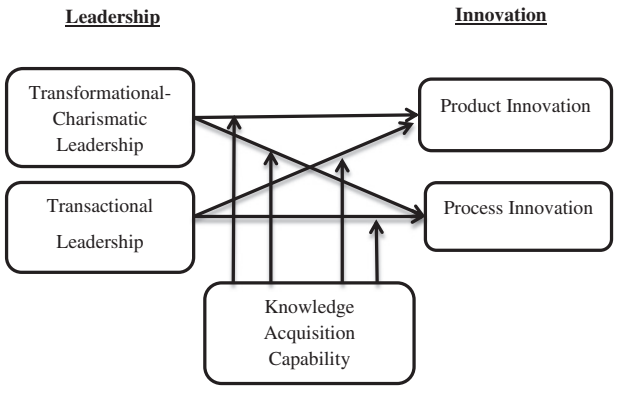

Fig. 1. Conceptual framework.

2. Literature review

Schumpeter defined innovation as "the reflection of novel outputs of a new good, a new method of production, a new market, a new source of supply, or a new organizational structure" (Schumpeter, 1934), and suggested that innovation can be classified as product, process or business model innovation. Recently Crossan and Apaydin (2010) developed a comprehensive typology for innovation and refined the definition of innovation as "production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new models of production; and establishment of new management systems. It is both a process and an outcome (p. 1155)."

Based on various dimensions of organizational innovation (i.e., type, magnitude, and form), innovation can be categorized as either technological and administrative innovation, radical exploratory and incremental exploitative innovation, or product/service, process and business model innovation (Gopalakrishnan & Damanpour, 1997; Gopalakrishnan et al., 1999; Rosenkopf & Nerkar, 2001). We choose to differentiate innovation in terms of its form and focus on product and process innovations. Over time, a firm's competitive advantage depends upon both product and process innovations (Damanpour & Gopalakrishnan, 2001). Process innovation involves a focus on increasing production efficiency, improving product quality and introducing new production methods. Product innovation receives considerable research attention as it is critical to business success (Danneels & Kleinschmidtb, 2001; Henard & Szymanski, 2001). Compared to product innovation, process innovation receives less attention because its outcomes are less tangible and less visible to consumers.

2.1. Product and process innovations

Product innovation is seen in new outputs or services that are introduced for the benefit of customers, and it is perceived as the most critical factor contributing to a firm's competitive advantage (Casadesus-Masanell & Zhu, 2012; Gopalakrishnan & Damanpour, 1997; Li & Atuahene-Gima, 2001; Paladino, 2008; Vaccaro et al., 2012). Process innovation includes new tools, devices, and knowledge inputs that enable production and management operations. We believe that process innovation is an equally important driver of competitive advantage. First, process innovation involves the introduction of new production methods, new management approaches, and new technologies that can improve production or management processes (Damanpour & Gopalakrishnan, 2001; Gopalakrishnan et al., 1999) and contribute to an organization's efficiency (Utterback & Abernathy, 1975). Second, process innovation helps an organization exploit its resources and capabilities and also recombine and reconfigure its resources and capabilities for production improvement or newness (Gopalakrishnan et al., 1999).

Product innovation and process innovation differ in three important ways. First, their respective strategic foci differ. Product innovation targets the market and is primarily customer-driven (Utterback &