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Ambidextrous organizational learning, environmental munificence and new product performance: Moderating effect of managerial ties in China ☆

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ABSTRACT

This research aims to explore how manufacturing firms in China have promoted new product performance through ambidextrous organizational learning. This study investigates the different effects of exploratory learning and exploitative learning on new product performance and the ways in which environmental munificence moderates these effects. Furthermore, this research also explores how managerial ties (i.e., business ties and political ties) shape the moderating effect of environmental munificence. Using survey data from a sample of 290 Chinese manufacturing firms, we find that exploratory learning positively facilitates new product performance while exploitative learning takes the form of an inverted U-shape. Our results further show that environmental munificence strengthens the effect of exploratory learning on new product performance while it weakens that of exploitative learning. Finally, we find that business ties and political ties produce distinct influences on the moderating effects of environmental munificence, presenting a complex re-moderating role on the linkages between ambidextrous organizational learning and new product performance.

1. Introduction

Over the past decade, manufacturing firms in China have attracted increasing global interest because China has become number one in the world's manufacturing industry (Chaudhry et al., 2005; Li, 2000a, 2000b; Xu et al., 2005, 2007, 2012; Li and Li, 2000; Tan et al., 2010; Zhang et al., 2011; Li et al., 2012; Tao et al., 2012). In contrast with firms in developed countries, they started with little advanced knowledge, a low level of external resource munificence, and inefficient market-based institutions (Peng and Heath, 1996; Mathews, 2002; Liu et al., 2009). It is therefore clear that organizational learning and innovation have been key issues during the past growth trajectory of manufacturing firms in China (Child and Rodrigues, 2005; Li et al., 2010a, 2010b; Škerlavaj et al., 2007). For example, Huawei, the largest telecom equipment manufacturer in China, has been focusing on improving new product development (NPD) through enhancing learning capabilities in order to capture a leading position. The question of how Chinese manufacturing firms have promoted innovation through organizational learning in a transitional economy is an important and interesting one.

Ambidextrous organizational learning, which refers to simultaneously performing exploratory learning and exploitative learning, has gained prominence in innovation research (March, 1991; Tushman et al., 2004; Tushman and O'Reilly, 1996; Gibson and Birkinshaw, 2004; He and Wong, 2004; Yalcinkaya et al., 2007; Cao et al., 2009). However, past studies do not provide much guidance for manufacturing firms in China in achieving such ambidexterity, since the established view in extant literature is that exploratory learning and exploitative learning are fundamentally incompatible because they compete for scarce organizational resources (Auh and Menguc, 2005; Sidhu et al., 2007; Smith and Tushman, 2005; Uotila et al., 2009; Lavie et al., 2010). According to this view, firms with a low level of resource munificence should make great efforts to properly balance resource distribution according to different features of the two kinds of organizational learning (Benner and Tushman, 2003), and in this way try to remove the constraint of resource deficiency.

However, previous literature has provided few real insights on this question because of two limitations. First, research has paid little attention to the difference in the effects of exploratory learning and exploitative learning on NPD in manufacturing firms, an important subject for optimizing scarce resource distribution. Although organizational learning activities such as exploratory and exploitative learning facilitate the pursuit of NPD simultaneously (Gupta et al., 2006), exploratory learning and exploitative learning may have different effects on NPD performance (Auh and Menguc, 2005; Atuahene-Gima and Murray, 2007; Li et al., 2010a, 2010b).

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Moreover, previous literature has focused mainly on general sampling, and thus its findings are not specific to manufacturing firms in a transition economy.

Second, little research has been devoted to how manufacturing firms might remove the constraint of low levels of resource munificence in a transition economy, where external resources are often embedded in social ties because of the absence of formal institutions. Manufacturing firms in China often confront high environmental uncertainty, which derives from low levels of resource munificence and inefficient market-based institutions (Peng and Heath, 1996; Mathews, 2002; Child and Rodrigues, 2005). They need to utilize both internal and external resources to overcome the low environmental munificence (Luo, 2005), and to build multidisciplinary design infrastructures to compete for better NPD (Wang, 2012; Ren et al., 2012; Liu and Wang, 2012; Li and Liu, 2012). Furthermore, external resources are often embedded in social ties because of the absence of formal institutions in these countries. Managerial ties provide a pervasive means to acquire external resources by cultivating ties with business leaders and government officials (Peng and Luo, 2000). Huawei, for example, with the support of the government, has been able to rapidly develop its technological innovation since the 1990s. Especially in emerging economies such as China, managerial ties, which refer to top managers' boundary-spanning and interpersonal connections (J.J. Li et al., 2008), are regarded as an alternative mechanism which rectifies the deficiency of formal institutions and enables firms to overcome institutional barriers and market instability in an uncertain market environment (Luo, 2003; Peng, 2005; Boisot and Child, 1996; J.J. Li et al., 2008). In existing literature, managerial ties include business ties which refer to the relationships with business identities and political ties which indicate the relationships with government officials (Peng and Luo, 2000; J.J. Li et al., 2008), and are viewed as the most important social resources that can help firms get access to necessary external resources and information (Xin and Pearce, 1996; Peng and Luo, 2000), build market legitimacy (Zhou et al., 2005), facilitate exchange of favors by building trust (Hoskisson et al., 2000), and achieve competitive capabilities (McEvily and Zaheer, 1999). However, few studies have examined how firms coordinate the external environment and ambidextrous organizational learning by using these two different kinds of managerial ties. A few scholars, in fact, have suggested that identifying which particular managerial ties enhance or constrain the environmental impact represents an important research agenda (Lee et al., 2001; Stam and Efling, 2008).

To address these important issues, this study aims to explore how exploratory and exploitative learning differently affect new product performance, and how different types of managerial ties change the impact of environmental munificence on the relationships between organizational learning and new product performance. This study provides major contributions in the following respects.

First, focusing on manufacturing firms in China, we find that exploratory learning exerts a positive effect on new product performance, while the effect of exploitative learning on new product performance is nonlinear. Thus, this study provides an effective combination of exploratory learning and exploitative learning in improving NPD of the manufacturing firms in China and thereby extends the organizational ambidexterity perspective specifically to manufacturing firms.

Second, this research extends organizational learning ambidexterity research by investigating how managerial ties moderate the impact of environmental munificence on the relationships between ambidextrous organizational learning and NPD. We argue that environmental munificence as a context condition has significant influence on the effects of ambidextrous organizational learning for firms in emerging economies facing high environmental uncertainty, and that the effects of environmental munificence on the relationships between exploitative learning or exploratory learning and new product performance are different. Importantly also, external resources can help firms improve these relationships. Using a sample of Chinese manufacturing firms, we examine whether and how the impact of environmental munificence on the relationships between organizational ambidextrous learning and new product performance can be changed by managerial ties. The results show that although the outcomes of NPD through learning are influenced by external environment, firms can actively improve these effects through effective utilization of managerial ties. Thus, our study indicates new roles for managerial ties in affecting organizational ambidextrous learning.

2. Theoretical background

2.1. Ambidextrous organizational learning and new product performance

Organizational learning is regarded as a key prerequisite for new product success (Levinthal and March, 1993; Li and Atuahene-Gima, 2001). In his seminal work on organizational learning, March (1991) divides organizational learning into exploratory learning and exploitative learning and acknowledges that these two types of learning are both critical determinants of product innovation. Exploratory learning refers to learning by generating variation and building on activities distant from the existing knowledge base (McGrath, 2001; Katila, 2002), whereas exploitative learning is viewed as directed research which emphasizes limiting variety and relying on the existing knowledge base (McGrath, 2001; Schildt et al., 2005). In order to ensure sustainable development, firms need to pursue both exploratory learning and exploitative learning (Lavie et al., 2010; Benner and Tushman, 2003).

Because both types of learning are essential but their inherent characteristics are contradictory, firms need to maintain a well-balanced combination and build an ambidextrous organization capable of simultaneously exploiting existing knowledge and exploring new knowledge (Raisch et al., 2009; Mohanty and Deshmukh, 1998; Saarenketo et al., 2004; Terwiesch and Bohn, 2001), in accord with context, structure, temporal conjunction, and domain (Tushman and O'Reilly, 1996; Lavie et al., 2010; Auh and Menguc, 2005; Gupta et al., 2006; Ayas, 1997). Various studies on exploratory and exploitative learning have recently emerged based on serious consideration of the antecedents, consequences, and contingencies of ambidextrous learning as well as on the ambidexterity itself.

Especially in China, firms often have a weak capability in radical innovation (Y. Li et al., 2008), a weakness which negatively affects their competitive advantage. Meanwhile, insufficient innovation resources lead these firms to focus on incremental innovation (Y. Li et al., 2008). In order to resolve this issue, more and more Chinese firms strengthen their exploratory learning, and pursue a balance between exploratory learning and exploitative learning. For instance, Huawei, established in 1988 by just seven people with only RMB 20,000 (about $2400), has made the transition from a locally owned business to a potentially competitive global giant by focusing on learning capabilities and technological innovation. During its development, top managers have always placed great emphasis on R&D and have emphasized the combination of exploitation and exploration. Huawei has committed around 10% of its revenues to R&D, and 10% of this R&D expenditure has been dedicated to exploration of new technologies and domains. Its full product portfolio, wireless network products (UMTS/HSDPA, CDMA2000, GSM/GPRS/EDGE, and WiMAX), network products

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