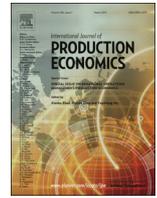




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# The impact of institutional pressures on supplier integration and financial performance: Evidence from China



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## ABSTRACT

With the rapid development of Chinese manufacturing industry and economy, there is an increasing emphasis on the Chinese institutional environment. In this study, we examine the impact of the three aspects of institutional pressures – normative, mimetic, and coercive – on the two dimensions of supplier integration – system and process – and their impact in turn on financial performance. We test the relationships with data collected from 617 manufacturers in China. Our results show that normative and mimetic pressures are positively related to both system and process integration; while coercive pressures are only positively related to process integration and not significantly related to system integration. The results also indicate that both system and process integration have a positive impact on financial performance. By developing and testing a theoretical model about institutional pressures, supplier integration, and financial performance in the context of the Chinese manufacturing industry, this study contributes to both the institutional and supply chain management literature, as well as providing a better understanding of Chinese manufacturing practices.

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## 1. Introduction

Over the past few decades, the benefits of supply chain integration (SCI) such as reduced costs, short cycle time, quick responsiveness, and satisfied customers, have been validated by both academics and practitioners (Frohlich and Westbrook, 2001; Kauremaa et al., 2010; Narasimhan and Kim, 2002; Van der Vaart and Van Donk, 2004; Vickery et al., 2003; Zhao et al., 2008). Recently, there has been increasing interest in supplier integration (Das et al., 2006; Li et al., 2007; Lockström et al., 2010; Yeung et al., 2009), because nowadays manufacturers are becoming increasingly reliant on their suppliers to gain competitive advantage (Prajogo et al., 2011; Van Der Vaart and Van Donk, 2008; Yeung et al., 2009). Supplier integration refers to the extent to which a manufacturer and its suppliers structure interorganizational strategies, systems, and procedures into collaborative, synchronized processes (Flynn et al., 2010; Stank et al., 2001). Much research has confirmed that supplier integration is crucial to company performance (e.g., Prajogo et al., 2011; Frohlich and

Westbrook, 2001); however, few studies have examined the enablers of supplier integration (Zhao et al., 2008).

Institutional pressures have been recognized as factors that influence the adoption of supply chain practices (Lai et al., 2006; Liu et al., 2010; Wong and Boon-itt, 2008; Zhang and Dhaliwal, 2009; Zhu and Sarkis, 2007). Liu et al. (2010) suggested that “firms are not only economically rational, but also socially rational entities” (p. 381). This implies that when a firm is making a decision on an action, it may conform to institutional pressures from the business environment (e.g., customers, suppliers, industries) to maintain its social legitimacy, instead of only pursuing economic efficiency. From this perspective, transaction cost economics (TCE) fails to consider the significance of social factors, though it is widely used to explain SCI (Zipkin, 2012). Therefore, operations management (OM) and supply chain management scholars have embraced institutional theory, which focuses on social factors, to explain operations such as innovation adoption (Heugens and Lander, 2009; John et al., 2001; Ketokivi and Schroeder, 2004; Liu et al., 2010; Rogers et al., 2007; Teo et al., 2003; Zsidisin et al., 2005). For example, Rogers et al. (2007) illustrated that “arguments from institutional theory can contribute to a better understanding of the social context of OM and supply chain management strategies” (p. 569). Similarly, Zhang

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and Dhaliwal (2009) argued that institutional pressures have the potential to shape the way in which companies adopt electronic linkages with their supply chain partners. Though more and more scholars are paying attention to institutional pressures and their social impacts, our literature review indicates that the application of institutional theory in supply chain management, especially in the SCI area, is still limited (John et al., 2001; Liu et al., 2010).

Although few studies investigate the direct relationship between institutional pressures and SCI, some research has examined the indirect impact of institutional pressures on some aspects of SCI (Cai et al., 2010). For example, Zhang and Dhaliwal (2009) examined the influence of institutional factors on firms' adoption of IT-enabled supply chain operations. Similarly, Liu et al. (2010) investigated the role of institutional pressures in firms' intention to adopt internet-enabled supply chain management systems. These studies have provided adequate evidence for the influence of institutional factors on firms' adoption of technology-enabled SCI. However, SCI includes not only the "hard" side of integration, which mainly consists of infrastructures and physical assets (e.g., technology, systems), but also the "soft" side of integration that mainly consists of process and human resources (e.g., processes, relationships). This study intends to develop a comprehensive understanding of the relationship between institutional pressures and supplier integration by classifying supplier integration into system and process integration and investigating the impact of the three aspects of institutional pressures (normative, mimetic, and coercive) on the two dimensions of supplier integration (system and process).

Institutional theory argues that firms embedded in social networks perceive strong pressure to conform to institutional expectations to acquire social legitimacy because violations may jeopardize organization performance and existence (DiMaggio and Powell, 1983; Meyer and Rowan, 1977). From this perspective, scholars have concentrated mostly on social factors when adopting an innovation, while neglecting its economic efficiency. However, Rogers et al. (2007) demonstrated that it is more likely that an innovation adopted in response to institutional pressures also has the potential to generate economic benefits at least to some extent. But to the best of our knowledge, few studies have researched the influence of supplier integration that is driven by institutional pressures on performance. This study proposes and tests a comprehensive institutional pressures–supplier integration–financial performance model.

Most previous institutional pressures and SCI studies were conducted in the West; we know little about how this relationship works in Chinese companies (Zhao et al., 2008). Companies in China have experienced rapid development since the economic reforms in the late 1970s, but they are still facing various problems such as poor product quality and high logistics costs, which may be resolved by effective use of supply chain management. However, research on the special role of supplier integration in Chinese companies is still limited. With the rapid development of the Chinese manufacturing industry and economy, there is an increasing focus on the Chinese institutional environment. Recently, many scholars have grounded their research in Chinese companies, such as Zhu and Sarkis (2007), Liang et al. (2007), Hu et al. (2007), Ke et al. (2009), Zhang and Dhaliwal (2009), and Liu et al. (2010). These studies provide a better understanding of how institutional pressures work in China. But the results are inconsistent and the unique Chinese cultural aspects are mainly ignored.

China's culture provides fertile ground for investigating institutional pressures, with its characteristics of collectivism, high power distance, and emphasis on "guanxi" (relationship) and "mianzi" (face). In the collective culture, group interests dominate (Zhao et al., 2008). Members of the collective culture are more likely to subordinate their personal goals to those of the group (Briley and Wyer, 2002; Hofstede, 1991, 1984; Zhao et al., 2008) and place the interests of the collective above their own (Chow

et al., 2000), which lays the foundation for institutional pressures. In addition, the emphasis on *guanxi* and *mianzi* makes it much easier to observe the effect of institutional pressures on Chinese companies. For example, a firm may adopt an innovation due to its good *guanxi* with other members to avoid losing face. Some scholars even argue that despite economic advantages, a supply chain innovation will not be adopted unless the focal firm can access a *guanxi* (Yaibuathet et al., 2008). From this perspective, the consideration of Chinese culture acts as a lens to more clearly delineate the role of institutional pressures in Chinese business practices. In conclusion, we need to investigate the impact of supplier integration on financial performance and factors that influence supplier integration, in order to seek ways of breaking the bottleneck in the development of Chinese companies and provide useful guidelines for Chinese manufacturers to succeed.

This study addresses two major research questions: (1) How do institutional pressures influence supplier integration? And (2) how does supplier integration influence financial performance? This study contributes to the institutional theory and SCI literature and practices in China.

The remainder of this paper is organized as follows: First, the theoretical background and research hypotheses are described. Next, the research methodology is presented, followed by presentation of the analyses and results. Subsequently, managerial implications are discussed. Finally, conclusions are drawn, together with limitations of this study and suggestions for future research.

## 2. Theoretical background and research hypotheses

### 2.1. Supplier integration

With increasingly fierce competition, suppliers and buyers must maintain collaborative relationships to ensure that abundant resources are available in supply chains to effectively deliver products to markets (Das et al., 2006; Frohlich and Westbrook, 2001) and ultimately to gain competitive advantage (Yeung et al., 2009). In order to take full advantage of these collaborative relationships, suppliers and buyers should integrate their processes through strategic alliance, information sharing, and working together, which together represent SCI (Flynn et al., 2010). SCI refers to "the degree to which an organization strategically collaborates with its supply chain (SC) partners and manages intra- and inter-organization processes to achieve effective and efficient flows of products, services, information, money and decisions, with the objective of providing maximum value to its customers" (Zhao et al., 2008, p. 374). The extant literature has identified three major types of SCI: supplier integration, internal integration, and customer integration (Droge et al., 2004; Flynn et al., 2010; Koufteros et al., 2005; Narasimhan and Kim, 2002). As many previous studies have, this study focuses only on supplier integration since it has been recognized as an important practice for improving supply chain performance (Ageron et al., 2011; Das et al., 2006; Lockström et al., 2010; Yeung et al., 2009).

Consideration of the dimensionality of supplier integration contributes to a better understanding of the way in which individual dimensions operate, as well as how they function jointly (Flynn et al., 2010). Though more and more attention has been paid to supplier integration (Ageron et al., 2011; Das et al., 2006; Lockström et al., 2010; Yeung et al., 2009), the classification of its dimensions is still mixed. While some studies examined supplier integration as a one-dimensional construct (e.g., Flynn et al., 2010; Yeung et al., 2009), some broke supplier integration into internal and external integration (Das et al., 2006), and others took an even narrower perspective,

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