



## Supply risk management via *guanxi* in the Chinese business context: The buyer's perspective

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### ABSTRACT

Previous research on supply risk management mainly focuses on the general risk management process based on case studies. In this study, we explore supply risk management via the relational approach in the Chinese business environment (i.e., *guanxi*) from the buying firm's perspective. We develop a theoretical model grounded in the social capital theory. Theorizing from the three forms of social capital (i.e., obligation, expectation, and trustworthiness; information channel; and norms and effective sanctions), we hypothesize that when a buying firm faces supply risk, it tends to form *guanxi* networks with its key supplier to reduce risk. We collect data to test the model by surveying manufacturing firms in Hong Kong and apply structural equation modeling to analyze the survey data. The research findings show that purchasing firms form *guanxi* networks with their key suppliers when they perceive supply risk. We also find that with *guanxi* development between the buyer and the supplier, both communication and supplier trust are improved, which in turn are positively related to supplier performance. This research contributes to theory by identifying the role of *guanxi* in supply risk management and to practice by providing insights to purchasing professionals that guide their effort in managing supply risk.

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### 1. Introduction

With increases in product and service complexity and global outsourcing, supply risk has increased and its sources have spread throughout the supply network. When dependence between firms deepens, firms are more exposed to risk from other firms (Hallikas et al., 2004; Swink and Zsidisin, 2006). Supply management executives are under strong pressure to minimize the financial impact of supply disruptions such as delayed shipment and product shortages. There has been considerable research on supply risk management focusing on the general risk management process that comprises risk identification, assessment, treatment, and monitoring, but little work on managing supply risk through a relational approach such as *guanxi* (relationships). In this study, we examine whether the buying firm can manage its supply risk through the development of a *guanxi* relationship with its key supplier in the Chinese business environment.

Supply risk management is a fairly new field of research and studies on this subject are scarce (Ojala and Hallikas, 2006). The traditional approaches to supply risk management include inventory management and multiple sourcing (Canbolat et al., 2008).

These approaches protect an organization from the effects of supply risk due to uncertainty by building “buffers” against unexpected incidents. However, the approach of amassing buffer stocks has various disadvantages. Zsidisin and Ellram (2003) point out that while buffer stocks lead to increased transaction costs, long purchase order cycle times, poor productivity, and an environment characterized by rushed orders, the use of buffers is not related to the level of perceived supply risk.

Previous research on supply risk management has been predominantly based on the agency theory and the institution theory, and has been limited to case studies. There is a lack of empirical research on supply risk management that uses the relational approach such as developing relationships with suppliers. Sheffi (2005) suggests that supplier relationships are important to a company's resilience and that poor supplier relationships can pose a major risk to any business. Giunipero and Eltantawy (2004) advise that to manage risk effectively in a supply chain, organizations should move to adopt a closer relationship with their key suppliers, as joint buyer–supplier efforts may reduce risk in the supply process. Hoyt and Huq (2000) argue that collaborative supply chain partnerships aid the development of flexibility, responsiveness, and low-cost/low-volume manufacturing skills, and can thereby reduce risk.

Cousins and Menguc (2006) and Lawson et al. (2009) observe that the use of socialization and integration can reduce the

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perceived risk between the buyer and the supplier, as it increases information flow and transaction-specific investment of both parties and reduces the likelihood of opportunistic behavior. Batjargal and Liu (2004) remark that social relationships are increasingly serving as mechanisms to reduce uncertainty because the players are likely to hedge their risk by using private or particularistic channels. According to the sociological view, firms adopt networks as a mechanism to mimic the strategies of successful firms in situations of uncertainty (Park and Luo, 2001). Acquah (2006) proposes that firms establish networking relationships to obtain resources and valuable information, and to acquire and exploit knowledge to overcome uncertainty in the business environment. Buyers and suppliers that work closely with one another tend to form social networks and develop relationships in uncertain situations to manage supply risk.

In the Chinese culture, relationships are known as *guanxi*. *Guanxi* is also important in business. Previous studies have suggested that *guanxi* is developed in situations of uncertainty in the Chinese business environment. Fan (2002) points out that *guanxi* provides insurance against uncertainty and assistance when problems arise. Abramson and Ai (1999) find that *guanxi* is developed in the uncertain environment of foreign direct investment and that *guanxi* relationships based on trust and mutual benefits are an essential basis for business. Lee et al. (2001) confirm that a firm's decision-making uncertainty is positively related to its *guanxi* with its partners.

The objective of this study is to examine whether the buying firm can manage its supply risk through the development of *guanxi* with its key supplier. This study fills several gaps in the literature on supply risk management. First, previous research methodologies for studying supply risk management mainly use case studies and there have been few empirical studies of supply risk management. Second, previous studies on supply risk management are mainly concerned with the general risk management process and there is a lack of research on supply risk management that uses the relational approach such as *guanxi*. Finally, the management theories that underpin past research on supply risk management are limited to the agency theory and the institutional theory. In this study, we employ empirical research grounded in the social capital theory to examine whether supply risk can be managed by the development of *guanxi*.

The remainder of the paper is organized as follows: In Section 2, we first give a concise review of previous studies on supply risk management. We then discuss the social capital theory and apply it to construct a theoretical model and formulate several hypotheses from the model. In Section 3, we introduce the research methodology and the measures of the key constructs. In Section 4, we present the data analysis and discuss the results. In Section 5, we conclude the research findings and discuss their academic and managerial implications. We also acknowledge the research limitations and make suggestions for future research on supply risk management.

## 2. Literature review and model formulation

### 2.1. Supply risk management

Meulbrook (2000) defines supply risk as that which adversely affects the inward flow of any type of resource such that operations cannot take place, which is also termed "input risk." Zsidisin et al. (2000) define supply risk as "the transpiration of significant and/or disappointing failures with inbound goods and services" and posit that the potential occurrence of disruptive events associated with inbound supply can have a significant detrimental effect on the purchasing firm. Zsidisin (2003a, 2003b)

further shows that supply risk is a multi-dimensional construct that depends on factors such as source, market characteristics, and ability to meet customer requirements. Following Zsidisin and Ellram (2003, p. 222), we define supply risk as "the probability of an incident associated with inbound supply from individual supplier failures or the supply market occurring, in which its outcomes result in the inability of the purchasing firm to meet customer demand or cause threats to customer life and safety."

Risk management is the process whereby decisions are made to accept a known or assessed risk or the implementation of actions to reduce the consequences or the probability of occurrence of an adverse event. Modern methods of risk management include scenario planning and the use of expert panels, Delphi studies, and various forecasting methods. Generally risk management actions are taken to avoid, transfer, share, reduce, or even take risk (Norrman and Jansson, 2004). Supply risk management concerns selecting an option from a set of possible options to protect a firm against risk originating from all the sources of uncertainty (Cucchiella and Gastaldi, 2006).

The relational approach to supply risk management is based on social interaction and cooperation between the buyer and the supplier. Sheffi (2005) emphasizes that supplier relationships are key to a company's resilience and that unsound supplier relationships can pose a major threat to any business. Yang et al. (2007) stress that the buyer and supplier firms in a supply chain tend to heavily rely on cooperation to survive in uncertain business environments characterized by rapid product obsolescence and fast-changing customer needs. Juttner (2005) suggests that supply risk means the uncertainty associated with supplier activities and in general the supplier relationship. Giunipero and Eltantawy (2004) propose that to manage risk effectively, purchasers should move towards adopting closer relationships with key suppliers. Joint buyer-supplier efforts may reduce risk in the supply process, and collaborative supply management efforts increase product reliability and reduce the risks of product introduction. Zsidisin et al. (2000) find that supply risk can be managed through forming alliances and supplier development, both of which increase information flow and allow organizations to enjoy improved business relations. Zsidisin and Ellram (2003) agree that supply risk can be reduced by information sharing, collaborative relationships such as trust, aligning incentives, proper revenue sharing arrangements, and the development of knowledge about risk and risk analysis.

Several works have discussed supply risk management using the agency theory (Zsidisin and Ellram, 2003; Zsidisin et al., 2004; Zsidisin and Smith, 2005). The agency theory is concerned with the study of the problems that arise when one party – the principal – delegates work to another party – the agent. The theory investigates the agency problems that occur when the two parties have different goals and labor is divided (Logan, 2000). Zsidisin and Ellram (2003) used the purchasing organization as the principal and the supplier as the agent, and suggested that, according to the agency theory, when supply risk or uncertainty becomes a significant factor to the purchasing organization, the company will use management efforts to reduce the probability and impact of a detrimental event. Again, the risk reduction strategies employed in this situation to protect the purchasing firm against detrimental events can be categorized as either behavior-based management efforts or buffer-oriented methods. Behavior-based management efforts are proactive that focus on processes and emphasize undertaking the "tasks and activities" that lead to a reduction in supply risk. Efforts to manage suppliers need human and financial inputs, and close communication to improve processes and reduce the chance of a risk event occurring. In contrast, buffer-oriented methods are reactive, which

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