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# The antecedents of dyadic quality performance and its effect on buyer–supplier relationship improvement

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## ABSTRACT

This study develops and empirically tests a conceptual framework to investigate the antecedents of dyadic quality performance and its connection with buyer–supplier relationship (BSR) improvement. Drawing on the knowledge-based theory, we argue that BSR improvement is a consequence of dyadic quality performance in terms of mutual conformance to the quality requirements of the involved parties in a BSR. We also posit that information technology (IT) capability of firms, effective communication with suppliers, and customer knowledge management (KM) capability are determinants of dyadic quality performance. Path analysis performed on data collected from 137 of the top 500 manufacturers in China indicates that customer KM capability positively affects dyadic quality performance, which in turn is positively associated with BSR improvement. Implications and future research directions on BSR are discussed.

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## 1. Introduction

*Dyadic quality performance* refers to the quality conformance of the involved parties in a buyer–supplier relationship (BSR) meeting the mutually agreed upon quality requirements and expectations in their economic exchange (Lai et al., 2005; Shin et al., 2000). It is concerned with the relationships of buyers and suppliers in providing quality products and services for their end customers (Stanley and Wisner, 2001; Yadav and Goel, 2008). Conformance to the dyadic quality performance indicates the mutual willingness of the involved parties in a BSR to comply with the quality requirements specified in their economic exchange. Given the growing trend

towards building and managing relationships among partner firms in a supply chain to deliver superior customer value at the lowest possible cost (Christopher, 1998), quality practices and performance in a BSR has received increasing attention in the literature (Fynes and de Burca, 2008; Lai et al., 2005; Mellat-Parast and Digman, 2008; Stanley and Wisner, 2001). The success of a BSR depends not only on the effective coordination of business activities between buyers and suppliers, but also their willingness to completely fulfill the quality requirements of each other to attain better performance in the BSR (Fynes and Voss, 2002). Conformance to quality is essential for developing cooperation, whereas continuance of a BSR underpins the ability of buyers and suppliers to satisfy their mutually agreed upon quality requirements in the economic exchange relationship.

Although quality management and its impact on business performance have been well-documented in the literature (e.g., Nair, 2006), the impact of quality conformance of buyers and suppliers on a BSR remains

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under-explored. Prior empirical studies were confined to conceptual development of quality management in a supply relationship as a management practice to ensure product/service quality with the presence of such factors as quality information, top management support, supplier and customer involvements, and so forth (Hendricks and Singhal, 1997; van der Vaart and van Donk, 2008). These studies failed to explicitly measure the quality conformance of the involved parties which is key to developing cooperation and continuance in a BSR (Molina et al., 2007). Although Lai et al. (2005) examined supplier commitment to the quality requirement of a focal firm from the perspective of transaction cost economics, study on mutual quality conformance in managing a BSR is lacking.

The literature has generated insights on adopting IT and electronic linkages for managing a BSR (Lai et al., 2008), but they neglect to examine the importance of exploiting the information shared in a BSR to create customer values. The exploitation of information can be characterized by organizational capability to share, integrate, and create information and knowledge in a BSR for customer value creation (Sanders and Premus, 2005). Other than effective communication between partner firms, it is essential for firms to have IT capability as well as customer knowledge management (KM) capability to process information and generate knowledge to create customer values (Sanders and Premus, 2005; Tanriverdi, 2005). *IT capability* refers to the IT management practices that enable firms to deliver IT services. Such practices include information processing, systems development, and IT applications in support of organizational operations relating to decision making and process improvements (Ravichandran and Lertwongsatien, 2005). The development of IT capability facilitates information processing and knowledge generation of firms. *Customer KM capability* is concerned with the organizational ability in managing knowledge about customers to better meet their needs. Information and KM capability are desirable elements for improving processes between partner firms, nurturing mutual understanding and expectations of the involved parties in the BSR (Kelle et al., 2007; Lai et al., 2005; Sanders and Premus, 2005), which in turn would be valuable for enhancing their ability to attain quality conformance.

The discussion above suggests a need for a systematic investigation on how firms improve BSR performance through effective management and utilization of information and knowledge. In particular, the antecedents of mutual support between buyers and suppliers in attaining dyadic quality performance and its implications on BSR improvement should be further explored. The objective of this study is to develop the theoretical underpinnings of this premise and empirically test a model that collectively considers information and KM capabilities of firms (i.e., IT capability, effective communication with supplier, customer KM capability, dyadic quality performance, and BSR improvement). Specifically, this study examines: (i) the impact of IT capability of firms, effective communication with suppliers, and customer KM capability on dyadic quality performance, and (ii) the association of dyadic quality performance with BSR improvement.

This study contributes knowledge to the study on BSR in two ways. In contrast to prior studies that have implicitly assumed that IT capability of firms could directly affect BSR performance (e.g., Saeed et al., 2005), this study builds on the knowledge-based theory. We contribute to the literature with this theoretical perspective by an insight that, in addition to possessing IT capability, effective communication with suppliers for knowledge exchange and customer KM capability are also key to generating mutually beneficial dyadic relationships, where the involved parties of a BSR accommodate the quality requirements of each another (Tsiakis and Papageorgiou, 2008). In addition, we extend the study of BSR from the economic and social perspectives, which mainly examine the cost (Cannon and Perreault, 1999) and social relationships (Granovetter, 1985), to KM perspective on the management of BSR. We examine the impact of attaining dyadic quality performance as the mutual willingness of the involved parties in a BSR to meet the quality requirements desired for their economic exchange and as the consequence of KM between partner firms for improving the BSR.

## 2. Theoretical background

### 2.1. Knowledge-based perspective of BSR

In the strategic management literature, knowledge is considered as a significant organizational resource (Grant, 1996b) contributing to an entity's capacity to take effective action (Nonaka, 1994). Knowledge can be embedded in various kinds of entities, including organizations, individuals, policies, documents, and so forth. The knowledge-based perspective of a firm builds on the Resource-based view of firm, which suggests that knowledge is an asset of a firm that is socially complex and usually difficult to imitate (Osterloh and Frey, 2000), and is valuable in producing long-term sustainable advantage to firms (Kogut and Zander, 1992).

The enabling information technologies (IT) (e.g., electronic data interchange (EDI)), can facilitate information sharing in support of the tightly coupled business processes between the exchange parties, which in turn is helpful for enhancing operational efficiency, reducing costs of coordination, and improving the transaction lead-time required for economic exchange in a BSR (Lai et al., 2006; Saeed et al., 2005). Information is converted to knowledge once it is processed by a firm, while knowledge becomes information once it is articulated, presented, and shared in the form of words, documents, or other symbolic forms (Grant, 1996a). Venkatraman and Tanriverdi (2004) identified four processes that are critical for managing the information and knowledge of firms: creation, transfer, integration, and leverage.<sup>1</sup> To better manage information

<sup>1</sup> Creation concerns the capability of firms to generate valuable outputs (e.g., decisions and actions), from the information input obtained from their business environment and interactions with its partner firms. Transfer of knowledge is related to the information sharing between partner firms that helps to extend the knowledge resources of a firm for making informed decisions and taking effective

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