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Reexamining the direct and interactive effects of governance mechanisms upon buyer–supplier cooperative performance

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ABSTRACT

This study aims to explore the effect of governance mechanisms (including both formal and social controls) upon the buyer–supplier cooperative performance in supply chains. Empirical evidence obtained via a mail survey from 106 firms participating in the Taiwanese "Center Satellite Production System" indicates that (1) there is an inverted U-shaped relationship between formal control and cooperative performance; (2) social control has a consistent positive effect on cooperative performance; and (3) the joint use of formal control and social control could enhance cooperative performance in supply chains but only in cases with moderate usage of formal control. Otherwise, social control becomes a supportive factor that repairs cooperative performance damage from overwhelmingly applied formal control.

1. Introduction

Supply chain networks embedded with many long-term buyer–supplier relationships can enhance the resource their exchange efficiency and create more value in the B-to-B marketing (Eltantawy, Giunipero, & Fox, 2009). The outsourcing risks that are prevalent in many industries, thus, have driven buyers to develop long-term relationships with a limited number of suppliers (Jaakkola & Hakanen, 2013; Svahn & Westerlund, 2007). Despite the advantages, several concerns stemming from transaction costs (e.g., the opportunism of partners and power conflicts between partners) exist and can damage the buyer–supplier cooperative relationships in the supply chain (Cai, Yang, & Hu, 2009; Hadjikhani & Thilenius, 2005; Wong, Tjosvold, & Zhang, 2005). To mitigate these concerns, scholars have long suggested that two basic governance mechanisms, either via "formal control" or via "social control," (Ballou, Gilbert, & Mukherjee, 2000; Mesquita & Brush, 2008; Zhang & Keh, 2009) positively enhance cooperative performance (Joshi, 2009; Yang, Zhou, & Jiang, 2011). This study thus aims to deeply explore the effectiveness of the two basic governance mechanisms and their interplay in the buyer–supplier cooperative performance in supply chain networks.

By definition, "formal control" refers to the written regulations, objectives, rules and obligations that specify the expected behavior, processes and output standards explicitly within the *contract* (Ouchi, 1979), whereas "social control" represents shared values, norms, goals, and an atmosphere of *trust* that harmonizes the interests of buyers and sellers (Tangpong, Hung, & Ro, 2010). The two distinctive governance mechanisms are often applied together to coordinate industrial buyers and suppliers (Joshi, 2009; Sánchez, Vélez, & Ramón-Jerónimo, 2012) and must not be considered to be independent of each other (Hernández-Espallardo, Rodríguez-Orejuela, & Sánchez-Pérez, 2010; Poppo & Zenger, 2002). Many recent studies find that the interplay between formal control and social control maintains the cooperative performance. For example, Zheng, Roehrich, and Lewis (2008) confirm that formal and social controls are complementary forms of exchange governance (see also in Heide, Wathne, & Rokkan, 2007; Liu, Luo, & Liu, 2009; Ness & Haugland, 2005). Some other empirical studies, however, find that social control can act as a substitute for formal control for cooperative performance (Das & Teng, 2001; Liu, Li, & Zhang, 2010; Şengün & Wasti, 2009). The contradictory and mixed empirical results indicate the need for further investigation of this long-debated question (Huemer, Boström, & Felzensztein, 2009).

To solve this puzzle, this study firstly refines the positive relationship between formal control, known as a basic condition to use explicit contracts to reduce the "transaction costs" resulting from the opportunistic behaviors of exchange partners, and corporative performance. Many transaction cost studies have also declared that the excessive adoption of formal control may not necessarily deter opportunistic behavior but may limit a partner's autonomy and signal a lack of trust (Poppo & Zenger, 2002; Ramaswami, 1996). Both of these results increase the huge "hierarchical costs", which may reversely reduce the cooperative performance. For example, many studies have found insignificant effects from formal control on buyer–seller cooperative performance (Grewal, Chakravarty, & Saini, 2010; Li, Xie, Teo, & Peng, 2010; Şengün & Wasti, 2009). Furthermore, this study presumes a *curvilinear* (inverse U-shaped) relationship between formal control

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and cooperative performance. In other words, the most appropriate level of formal control may already be in place and a higher degree of formal control may have a negative effect on cooperative performance after this point. If this situation is the case, this study argues that the interplay of both governance mechanisms on cooperative performance may reveal a more dynamic and contingent pattern based on the level of formal control used in each buyer–supplier relationship (Yang et al., 2011). The study then investigates the following question: "what are the joint effects, either substitute or complementary, of formal and social controls on cooperative performance in each buyer–supplier relationship (i.e., the unit of analysis of this study) based on the different contextual level of formal control?"

By clarifying the nature of the curvilinear relationship between formal control and cooperative performance, this study contributes to exploring how this basic endogenous factor contingently affects the successful buyer–supplier governance mechanism design in supply chains. Most related studies have focused on the exogenous contextual factors, e.g., environmental uncertainty (Frazier, Maltz, Antia, & Rindfleisch, 2009), legal enforceability (Poppo & Zenger, 2002), traits of partners (Zhang & Keh, 2009; Zhou & Peng, 2010), product life cycle (Mahapatra, Narasimhan, & Barbieri, 2010), and asset type (Yu, Liao, & Lin, 2006). Because these studies primarily ignored the contingent nature and viewed the linear impact of formal control upon corporative performance, they cannot provide more flexible strategic thinking to help managers design different governance mechanisms to manage the relationships between buyers and suppliers in the supply chains. This study then selects to analyze a Taiwan's supply chain network that co-exists with contract- and relational-based governance between buyers and suppliers.

In the following, we firstly review the existing literature and develop our research hypotheses; we then describe our research methodology; thirdly, we show our empirical results; finally, we discuss our findings and put forth our conclusions. We also comment on the limitations of our research and present possible topics for future research.

2. Literature review and hypotheses development

2.1. Exchange, transaction and contracts

Contracts are the best design under existing knowledge to govern buyer–supplier relationships; and they should never be too detailed or too long and leave incomplete (Tirole, 2009). An incomplete contract results in adverse selection, moral hazard, information hold-up, and opportunism, which all significantly increase transaction costs. Transaction cost theory defines opportunism as a partner firm exploiting its position and using deceit to service its self-interest to achieve gains at the expense of other partners (Das & Rahman, 2010; Tsang, 2006). Opportunism creates a need for *ex ante* and *ex post* safeguarding, including formal and social governance structures (Das & Teng, 2001; Nakos & Brouthers, 2008; Subramani & Venkatraman, 2003). The fundamental driver behind firms adopting various governance mechanisms in interfirm business is the desire to minimize transaction costs (Li et al., 2010).

Social exchange theory opines that seeking rewards and avoiding punishment are two major reasons for firms to form an exchange relationship. Power, justice, and interdependence are the major issues that social exchange theory uses to explore the relationship between buyer–supplier governance and its outcome (Narasimhan, Nair, Griffith, Arlbjørn, & Bendoly, 2009). The buyer–supplier relationship may be subject to the justice perception derived from social interaction and communication (Liu, Huang, Luo, & Zhao, 2012). The relational exchange view emphasizes social embeddedness, open communication, trust and other aspects of relationalism that can mitigate the likelihood of opportunism and improve cooperative performance (Dyer & Singh, 1998; Liu et al., 2009). This study relies on transaction cost theory, social exchange, and the relational exchange view, which has many important characteristics and potential effects.

2.2. Governance mechanisms

Governance refers to the organizational or structural arrangements designed to determine and influence the behavior of organization members (Das & Teng, 1998). Formal control emphasizes written procedures for monitoring, specifying the detailed roles and responsibilities to be performed and outcomes to be delivered (Li et al., 2010; Poppo & Zenger, 2002; Wang & Fulop, 2007). The application and utilization of a formal contract, rules, procedures, and policies to monitor, reward and punish a partner's behavior or outcomes provide protection by ensuring that the promise or obligation to perform particular actions is met and that organizational goals are achieved (Coltman, Bru, Perm-Ajchariyawong, Devinney, & Beniot, 2009; Das & Teng, 2001).

Social control means that the business organization uses shared values, social and/or cooperative norms, trust, consistent goals and a cooperative atmosphere to encourage specific behaviors that harmonize the partners' interests and limit opportunism (Li et al., 2010; Liu et al., 2009; Petersen, Handfield, Lawson, & Cousins, 2008; Tangpong et al., 2010). Economic behavior is closely embedded in social networks, and economic logic should acknowledge the influence (Poppo, Zhou, & Zenger, 2008). Through socialization, personal familiarity, and problem solving (Cousins & Menguc, 2006), norms, identity and cohesion can be created (Ahuja & Galvin, 2003; Şengün & Wasti, 2009), and members can become more committed to their organization and share views that strongly influence their behaviors (Das & Teng, 2001). Therefore, the more that the exchange partners trust each other, the more confident each will feel that the other will cooperate in good faith and care for their partnership rather than behave opportunistically to exploit it (Liu et al., 2009).

Appendix A summarizes some of the critical articles on buyer–supplier relationship governance. In the following sections, our study will discuss the relationship between various governance mechanisms and cooperative performance and the joint effects of various mechanisms on cooperative performance.

2.3. Formal control and cooperative performance

Formal controls set legal parameters using contracts with agreements on price, volume, logistics and quality standards that help to contain the impact of various performance uncertainties (Mahapatra et al., 2010). Formal controls provide a major regulating tool for safeguarding transaction-specific assets against opportunism (Cai et al., 2009; Liu et al., 2009; Williamson, 1979; Yu & Liao, 2008) and provide a means for making inter-firm trade work smoothly. Through formal control, a party may simply establish a standard and then threaten to replace an opportunistic partner to reduce opportunism (Das & Rahman, 2010; Heide et al., 2007; Jiang, 2009; Poppo & Zenger, 2002), protect specific investments and increase satisfaction and performance (Liu et al., 2010; Yu & Liao, 2008). Thus, irrespective of the quality of the relationship, alliance partners must design detailed contracts that specify the respective rights and responsibilities to coordinate activities, resolve future potential conflicts, plan for future transactions, adjust corporate strategies to respond to changes in the environment and provide legal protection for the participating parties (Cai et al., 2009; Liu et al., 2010). Formal control increases the ability to match rewards and sanctions to the partners' behaviors, including not behaving opportunistically (Hernández-Espallardo et al., 2010). Formal controls cannot account for all possible scenarios, but the opportunity for a partner firm to act opportunistically may be constrained (Li et al., 2010). Thus, formal controls can enhance cooperative performance.

Formal controls may also have negative effects on cooperative performance. Transaction cost theory maintains that it is impossible to provide an exhaustive description of the rights and obligations to meet every contingency (Coltman et al., 2009; Williamson, 1979; Zaheer, McEvily, & Perrone, 1998). A complicated formal contract between a buyer and seller is often expensive to draft and cannot cover all future