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Knowledge spillovers through quality control requirements on innovation development of global suppliers: The firm size effects

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ABSTRACT

Customers' outsourcing relationships with global suppliers have received increasing attention in recent decades. However, how global suppliers of different firm sizes maintain innovation development under customer coercive pressure has received little empirical study to date. Applying theoretical insights from a coercive isomorphism perspective, this article empirically tests both the moderating effect of supplier firm size and the direct effects of customer quality control requirements, supplier R&D absorptive capacity, and supplier-customer relationship quality on the supplier's propensity to benefit from customer knowledge spillovers. Analyzing a sample of 266 global suppliers in China with hierarchical regression technique, our findings demonstrate that, for smaller suppliers, customer quality control requirements significantly enhance innovation development while having no impact on larger suppliers' innovation development. Our findings also show that supplier firm size moderates the effects of customer quality control requirements and supplier R&D absorptive capacity on supplier innovation development. This article sheds new light on how supplier firm size impacts supplier innovation development under customer coercive pressure.

1. Introduction

Throughout recent decades, outsourcing has become a priority for large multinational corporations (MNCs) to expand operations into the global market and boost supply chain efficiencies (e.g., Alcacer & Oxley, 2014; Kotabe, Mol, Murray, & Parente, 2012). Due to their prominent position in the global supply chain, large MNCs as global customers have become the primary movers and shakers of the global marketplace (e.g., Jaguli, Malek, & Palil, 2014). Globalization driven by large MNC outsourcing leads not only to an increase in global capital flows, but also to tremendous knowledge spillovers through supplier-customer relationships (e.g., Lin, Liu, & Zhang, 2009). With the increasing impact of large MNC outsourcing activities on global business, both academia and practitioners demonstrate a strong interest in understanding which factors lead to supplier capability development in innovation through relationships with large MNC customers (e.g., Gupta, 2008; Jaguli et al., 2014). Recent research demonstrates that both sizes and types of customers have significant impacts on supplier capability development (e.g., Alcacer & Oxley, 2014; Jean, Sinkovics, & Kim, 2010; Kang, Mahoney, & Tan, 2009; Lages, Silva, & Styles, 2009). For example, Kang et al. (2009) find that suppliers serving large customers experience significant improvements in several aspects of capability, such as production processes, quality control, and new product development. Alcacer and Oxley (2014) show that suppliers from developing countries demonstrate strong and unequivocal evidence of technological learning by serving branded customers in the mobile telecommunications industry.

Despite evidence of supplier learning through knowledge spillovers of large MNC customers (e.g., Kang et al., 2009; Wang & Wu, 2016), there is a scarcity of relevant empirical research on how suppliers of different firm sizes achieve innovation capability gains when they are under the coercive pressure of large MNC customers' quality control requirements. Prior research focuses mainly on whether knowledge spillovers of large MNCs have positive effects on the host economy or industries (Chung, Mitchell, & Yeung, 2003; Dietzenbacher, 2000). More recent research suggests that whether or not local firms benefit from large MNC sourcing activities depends on their absorptive capacity and their relationships with large MNC customers (e.g., Rodríguez-Castellanos, Hagemeister, & Ranguelov, 2010). Research demonstrates that some suppliers increase their innovation capability through relationships with large MNCs while other suppliers may fail to capture the opportunity to upgrade (Blalock & Simon, 2009; Chung et al., 2003). This mixed empirical evidence compounded by incomplete understanding about how coercive pressure and firm size play a role in

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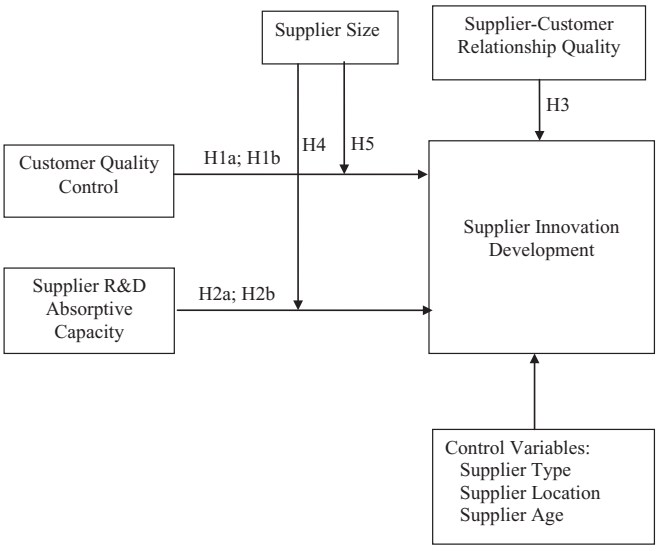

Fig. 1. The Model of customer quality control on supplier innovation development.

development of supplier innovation capacity has prompted us to explore the causes of supplier innovation development through a coercive isomorphism perspective, A coercive isomorphism perspective (e.g., DiMaggio & Powell, 1983; Kim, Lee, & Lee, 2017; Martínez-Ferrero & García-Sánchez, 2017), which focuses on the power relationships between organizations, states that dependent organizations in inter-organizational relationships with dominant organizations are homogenized through both formal and informal pressure from dominant organizations to adopt their practices and business procedures.

Drawing upon a coercive isomorphism perspective, we argue that customer quality control requirements, supplier research and development (R&D) absorptive capacity, and supplier-customer relationship quality have differential impacts on supplier innovation development depending on the size of the suppliers (See Fig. 1). We use a hierarchical regression technique and empirically examine our arguments with survey data collected through 266 global suppliers from a wide variety of industries in China, such as those supplying telecommunication equipment, office supplies or computers. Our multiple regression analysis reveals interesting findings. Specifically, our findings show that customer quality requirements positively impact innovation development of smaller suppliers, while simultaneously having no impact on innovation development of larger suppliers. Furthermore, we observe significant moderating effects of supplier firm size on supplier innovation development through both customer quality control requirements and supplier R&D absorptive capacity.

2. Theory and hypotheses

Although there is a rich body of research on how suppliers accumulate capabilities and strengthen their competitive position through alliance partners, supplier-customer relationships, and inter-organizational product development teams (e.g., Fritsch & Meschede, 2001; Jean et al., 2010), how suppliers develop innovation capacity under coercive pressure has received little empirical study to date.

Coercive power is a central theme of asymmetric relationships and is considered crucial to understanding operational and social relationships in marketing channels (e.g., Frazier & Rody, 1991; Kiyak, Roath, & Schatzel, 2001; Kühne, Gellynck, & Weaver, 2013; Zhuang, Herndon, & Zhou, 2014). Research generally suggests that coercive power has negative ramifications on firm relationships (e.g., Leonidou, Talias, & Leonidou, 2008; Wang, Huo, Tian, & Hua, 2015). For example, findings show that coercive power negatively impacts cooperation (Skinner, Gassenheimer, & Kelley, 1992). Exercising coercive power increases relationship conflict (e.g., Leonidou et al., 2008) and the risk of opportunistic behaviors (e.g., Wang et al., 2015). Recently, Kim et al. (2017) demonstrate that coercive power impedes supplier performance improvement. The weaker firm in a coercive relationship perceives a high level of relational risk (Bazyar, Teimoury, Fesharaki, Moini, & Mohammadi, 2013).

Despite the common arguments of coercive power in a negative light, some research has suggested that coercive isomorphism has significant learning implications and can benefit the dependent party when the dependent party works closely with the dominant firm (e.g., Guler, Guillén, & Macpherson, 2002; Ramaseshan, Yip, & Pae, 2006; Yeung, Selen, Zhang, & Huo, 2009). Coercive isomorphism, originated in the social and political sciences (e.g., DiMaggio & Powell, 1983; Mizruchi & Fein, 1999), suggests that inter-organizational power structures define the interaction among hierarchical organizations. Coercive isomorphism implies the potential effect one firm (usually a large-sized customer) has over its partner firm (usually a small- or medium-sized supplier) in terms of decision-making and legal and technical adaptation; the asymmetric power relationships cause small or medium-sized suppliers to perceive coercive power from the large-sized customer as “legitimate” (Ramaseshan et al., 2006). Dependent firms constantly increase their compatibility with dominant firms under the direct or explicit imposition of legal and technical requirements as well as adapting their practices to conform to the requirements of dominant organizations.

Research demonstrates that coercive isomorphism drives adoption decisions of corporate social responsibility reporting among early adopters (Bhimani, Silvola, & Sivabalan, 2016). Zhao, Huo, Flynn, and Yeung (2008) show that coercive power enhances instrumental relationship commitment. Large MNCs are key actors responsible for coercive isomorphism in trade relationships, and coercive effects result in learning-based and competitive imitation of small- or medium-sized suppliers (Guler et al., 2002). Both the exercise of coercive power and the knowledge that it exists can influence and possibly improve the business processes of dependent parties.

Building on a coercive isomorphism perspective, we argue that supplier firm size has important implications for suppliers' innovation development in their relationships with large MNCs through customer quality control requirements, supplier R&D absorptive capacity, and supplier-customer relationship quality.

2.1. Customer quality control requirements

With the globalization of world economy, in outsourcing activities, customer quality control requirements play a vital role in securing the final quality of a product and fortifying relationships between suppliers and customers (e.g., Blalock & Simon, 2009; Jaguli et al., 2014). Quality control is incorporated into a product throughout the entire production process (Hung, Lien, Yang, Wu, & Kuo, 2011). Strict quality control requirements guarantee that desired products are produced as specified.

We argue that coercive pressure from large MNC customers through their quality control requirements on suppliers significantly impacts supplier innovation development. Customer quality control requirements act as a catalyst to improve supplier innovation development (Jaguli et al., 2014). Large MNCs exert explicit or implicit coercive power by requiring suppliers in the host countries to adhere to their quality control requirements in order to maintain their competitive position in the global marketplace. According to a coercive isomorphism perspective, suppliers, under the pressure of competition and penalties, are forced to follow those requirements and improve performance to keep up with the quality standards of large MNC businesses (Jaguli et al., 2014; Javorcik, 2004). Guler et al. (2002) show that large MNCs are key actors for the cross-national diffusion of quality control standards (ISO 9000 quality certificates). Javorcik (2004) reveals that the high-quality standards of large MNCs may induce suppliers to