The impact of informal social interaction on innovation capability in the context of buyer-supplier dyads

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A B S T R A C T

Although many studies employ social network theory to explain firm innovation, how individual-level factors lead to a firm’s collective innovation capability remains under-researched. Building on studies that use the work boundary to define formal and informal social interactions, this research aims to illuminate how informal buyer-supplier employee interactions influence buyer firms’ innovation capabilities through knowledge acquisition. Integrating the literatures on absorptive capacity and social interaction, the analysis of survey data from 273 Chinese manufacturing firms suggests that employees’ informal interactions are positively associated with knowledge acquisition and enhance firms’ innovation capabilities. Furthermore, the indirect effects of informal interactions on innovation capability are moderated by knowledge application.

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1. Introduction

A firm’s ability to assimilate and apply external information in creating a new product and new processes is a major determinant of its innovation capability (Cohen & Levinthal, 1990). In this regard, many studies have shown that inter-firm social networks play an important role in creating both firm value and competitive advantage (e.g., Luzzini, Aman, Caniato, Essig, & Ronchi, 2015; Ritter & Gemünden, 2003; Wu, Li, & Wang, 2015). In particular, collaboration with their suppliers enables buyer firms to improve their business performance (Chung & Kim, 2003; Knudsen, 2007; Pérez & Sánchez, 2002; Wagner, 2010) and innovation capabilities (Gemünden, Ritter, & Heydebreck, 1996; Pittaway, Robertson, Munir, Denyer, & Neely, 2004; Tomlinson & Fai, 2013).

Network theory, which is employed to explain the link between networks and innovation, tends to focus on the possibility of and opportunities for resource access and application; by contrast, how firms transform these potential network benefits into firm innovation remains an open research question (Shu, Page, Gao, & Jiang, 2011). Even more specifically, the means by which individual-level factors help determine the collective level of a firm’s innovation capability (Barney & Felin, 2013) remains under-researched. This research gap constrains the understanding of how individual employees contribute to innovation. First, as knowledge, particularly tacit knowledge, is normally held by individuals (Dhanaraj & Parkhe, 2006; Kogut & Zander, 1992), organizations gain resources that enhance their innovation capability by exploiting their members’ social capital, as explicitly noted by Van Wijk, Jansen, and Lyles (2008). Second, each network involves individual people connecting or failing to connect across a social space, and these interactions are the building blocks of networks (Salancik & Burt, 1995). These interactions are defined as the networking behaviors of individual employees of buyer and supplier partners (or contacts) both within and beyond formal workplace or work-related contexts (Porter & Woo, 2015). The networking activities of individuals help maintain existing network relationships, which can result in access to resources that are necessary for innovation (Larson, 1992; Porter & Woo, 2015; Tasselli, Kilduff, & Menges, 2015). Third, little attention has been paid to the actual processes underlying absorptive capacity with regard to innovation capability, in particular (Lane, Koka, & Pathak, 2006). More specifically, relatively little is known about how the different proposed components of absorptive capacity affect relevant outcomes, e.g., the innovation capability of individuals, their capabilities taken together and/or their capabilities arising through their interactions (Ebers & Maurer, 2014), particularly in relation to individuals’ networking interactions (Volberda, Foss, & Lyles, 2010). Fourth, the previous literature has distinguished these activities as formal and informal interactions largely within the workplace and in terms of work under formal organizational structures (e.g., Pittaway et al.,...
2. Literature review and hypotheses

Innovation is perceived as an interactive learning process (Lundvall, 1992) and is defined as the creation of new knowledge from the application of current knowledge, which includes knowledge acquired from an external network (Gold, Malhotra, & Segars, 2001). According to Cohen and Levinthal (1990), absorptive capacity has three elements, consisting of new external knowledge acquisition, assimilation and application. Grant (1996) argues that knowledge acquisition and creation are activities of individuals, whereas the primary role of firms is to apply existing and new knowledge to the production of goods and services. Therefore, knowledge acquisition and knowledge application are two key components and processes of absorptive capacity for innovation: knowledge acquisition is a prerequisite for knowledge application, which allows the organization to achieve its ultimate goal of innovation. Following the above logic, this paper proposes that knowledge acquisition mediates the relationship between informal social interaction activities among employees (between buyers’ and suppliers’ employees, in particular) and the buyer firm’s innovation capability. Such an indirect relationship is moderated by the buyer firm’s knowledge application activities; in this regard, Alavi and Leidner (2001) suggest that competitive advantage involves the application of new knowledge and not the acquired knowledge itself.

Many studies highlight the benefits of inter-firm social networks in creating value and competitive advantage (Chung & Kim, 2003; Knudsen, 2007; Luzzini et al., 2015; Ritter & Gemünden, 2003; Wagner, 2010). In particular, firms working closely with strong supplier networks can perform better, including in terms of higher levels of productivity (Pérez & Sánchez, 2002). Furthermore, suppliers are valuable sources of innovation (Gemünden et al., 1996; Lawson, Petersen, Cousins, & Handfield, 2009; Pittaway et al., 2004; Tomlinson & Fai, 2013). Pérez and Sánchez (2002) highlight the integration of suppliers into the innovation process as one of the factors leading to framework-breaking innovation. Similarly, Pittaway et al. (2004) note that suppliers’ involvement in a buyer’s development team is the largest single differentiator between the least and most successful innovation efforts.

However, positive value creation outcomes from this inter-organizational relationship between organizations do not simply exist or emerge in a vacuum (Walter, Auer, & Ritter, 2006). In fact, each network involves individual people connecting (or failing to connect) across social spaces, and these interactions constitute the building blocks of networks. In other words, networks are constructed when individuals, whether organizations or humans, interact with one another (Salancik & Burt, 1995). As Burt (1992) notes, it is not the position of an individual in the network but instead the entrepreneurial approach of the actor that creates the benefit and turns the position into an advantage. Similarly, Gemünden et al. (1996) find that firms using particular forms of networking categorized by their relationship with specific parties are likely to have nearly 20% more product improvements than firms that do not network. This dynamic process cannot be ignored when considering the role of networks in a theory of the organization (Salancik & Burt, 1995). Specifically, Volberda et al. (2010, p. 945) suggest that “current research never truly shows how organization level absorptive capacity is related to ... the interaction of individuals ...”. The present research, in particular, focuses on how buyer-supplier employee interactions can improve the focal (buyer) firms’ innovation capability, as described in the next section.

2.1. Informal social interaction and knowledge acquisition

Interactions consist of discrete events that are (typically) summed over a period of time, such as “talked to over the last month” (Porter & Woo, 2015) or “having lunch or dinner together” (Burt, 1992). Cousins, Handfield, Lawson, and Petersen (2006) and Lawson et al. (2009) refer to interactions as socialization mechanisms and find that both formal and informal inter-organizational socialization mechanisms facilitate knowledge sharing between buyers and suppliers and lead to better product development. These formal mechanisms may include cross-functional teams, co-location, regularly scheduled meetings and conferences, or matrix-style reporting structures, which are measured by whether the buyer has formal structures in place to facilitate socialization within the inter-organizational development team. Informal mechanisms include joint benchmarking research, supplier and engineering visits to facilities, product demonstrations, etc., which are measured by those informal policies and processes implemented by the organization to facilitate buyer-supplier socialization. Although the findings of Cousins et al. (2006) and Lawson et al. (2009) are interesting and helpful, their distinction between formal and informal mechanisms might be somewhat limited. In essence, both of their “formal” and “informal” mechanisms share the same characteristics in terms of the boundaries of ‘socialization’ within the workplace and within the scope of work under formal organizational structures. Therefore, their studies neglect social interaction activities that occur beyond work boundaries, which can also facilitate knowledge sharing; in fact, knowledge flows between individuals result more often from employees’ personal initiatives than from formal organizational structures (Allen et al., 2007).

Shifting the focus beyond work, Mehra et al. (2001) define informal socializing ties as people spending free time together and find that employees who have a greater number of such ties with fellow employees have higher performance ratings. Clearly, going out to lunch, dinner, drinks, films, visiting one another’s homes, etc. are informal social activities that occur outside of the workplace and work (Reagans & McEvily, 2003). According to Oh, Chung, and Labianca (2004), in many Asian countries, such as China, Japan and Korea, such informal social...
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