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Partner trustworthiness, knowledge flow in strategic alliances, and firm competitiveness: A contingency perspective

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ABSTRACT

Firms in strategic alliances acquire knowledge from partners but also face the risk of knowledge leakage to partners. To address such dilemma of knowledge exchange, this study proposes partner trustworthiness as a common determinant of knowledge acquisition and knowledge leakage, and examines the effects of knowledge exchange on firm competitiveness. Moreover, we posit that these effects are contingent on alliance regimes (competitive vs. non-competitive alliances). A survey among 205 partner firms shows that in both alliance regimes, partner trustworthiness facilitates knowledge acquisition, whereas it exerts a negative effect on knowledge leakage in non-competitive alliance, but follows a U-shaped pattern' in competitive alliances. Firm competitiveness increases with knowledge acquisition in competitive alliances, but increases at a decreasing rate in non-competitive alliances. Knowledge leakage undermines firm competitiveness in both alliance regimes. Our study is based on solid theoretical foundations and provides important theoretical and practical implications for knowledge management in strategic alliances.

1. Introduction

Strategic alliances have become a popular vehicle for organizational learning and knowledge sharing across organizational boundaries (Kale et al., 2000; Li et al., 2010). Indeed, the primary incentive of firms to enter into alliances is to obtain valuable resources, of which specialized knowledge is the main target (Das and Teng, 2000). In extant literature, the phenomenon of inter-firm knowledge exchange has attracted a growing number of studies that examine its determinants and consequences. A comprehensive literature review indicates that most studies examine knowledge exchange between firms at a uni-dimensional level (van Wijk et al., 2008), without considering the possibility that knowledge flow could occur in both directions, which stands as a salient dilemma faced by firms in strategic alliances especially. That is, an alliance relationship not only allows the focal firm to acquire specialized knowledge from its partners but also subjects it to the risk of losing its own proprietary knowledge to the same partners (Kale et al., 2000; Li et al., 2008; Oxley and Sampson, 2004). For example, in an alliance with Microsoft to develop spreadsheet and graphical applications for its Mac, Apple acquired the pertinent technological knowledge from Microsoft but also leaked to its archrival the critical knowledge of Graphic User Interface (GUI) (Li et al., 2008).

The tension between knowledge acquisition and knowledge leakage characterizes a major problem in strategic alliances (Kale et al., 2000). To solve this dilemma, we need to identify the common determinants of both dimensions of knowledge flow. If one factor influences knowledge acquisition but does not have any impacts on knowledge leakage, or vice versa, change in this factor would not provide useful insights into solving the dilemma, except for enhancing our understanding of the effect of this factor on only one dimension of the knowledge flow. For example, Kale et al. (2000) examine the effects of relational capital on firm learning from alliance partners and protection of proprietary knowledge. However, their study only finds a positive effect of relational capital on acquisition of skills and capabilities but an insignificant effect on knowledge protection (p. 231). Moreover, a lack of effect on one facet of inter-firm knowledge flow may be due to the existence of some contingency factors. In other words, it is equally important to examine the conditions under which the dilemma of knowledge exchange could be effectively addressed in strategic alliances (van Wijk et al., 2008).

Extant literature highlights the role of relational capital, such as mutual trust between firms, but yields different views about the specific effects of the relational force. On the one hand, the vast majority of prior studies contend that relational capital facilitates knowledge sharing and transfer between firms at both dyadic and network levels (Dyer and Chu, 2003; Kale et al., 2000; Li et al., 2010; Reagans and McEvily, 2003; Uzzi, 1997; van Wijk et al., 2008). On the other hand, some

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studies point out the dark side of close relations and trust, arguing that the relational capital of trustworthiness could reduce monitoring of partner firms' behavior and subject the trustors to the opportunistic exploitation of their counterparts, thus exacerbating the dilemma of knowledge exchange and transfer (Gargiulo and Ertug, 2006; Langfred, 2004; Yli-Renko et al., 2001). Hence, how relational capital influences both dimensions of knowledge flow in strategic alliance is inconclusive and thus the dilemma remains unsolved.

From the knowledge-based view, the dilemma of knowledge flow in strategic alliances carries strategic importance, because knowledge assets determine the competitive advantage of firms (Grant, 1996) and protecting valuable knowledge from appropriation or imitation enables firms to sustain the competitive advantage (Liebeskind, 1996). Although prior literature demonstrates a positive association between knowledge acquisition and firm performance (see the meta-analysis of van Wijk et al., 2008), previous work based on the absorptive capacity perspective questions the robustness of this intuitive finding, arguing that with an inadequate absorptive capacity, the recipient firm may lose part of the value of the acquired knowledge (Cohen and Levinthal, 1990; Phene et al., 2006). Furthermore, in contrast to the theoretical establishment that punctuates the institutional role of firms to create and sustain competitiveness by protecting knowledge assets from leakage (Liebeskind, 1996; Oxley and Sampson, 2004), the empirical validation on the effect of knowledge leakage on firm competitiveness has escaped the scope of inquiry in extant literature. Thus, research remains incomplete regarding the relationships between the two dimensions of knowledge flow and firm competitiveness.

Knowledge flow could also be governed by the competitive landscape in strategic alliances (Jiang and Li, 2008; Oxley and Sampson, 2004). For example, when firms compete in a common product market, they have a stronger incentive than otherwise to internalize their partners' proprietary knowledge while thwarting the access to their private knowledge (Hamel et al., 1989; Oxley and Sampson, 2004). Further, consistent with the view that knowledge redundancy influences firms' ability to absorb external knowledge (Lane and Lubatkin, 1998), prior research has furnished empirical evidence that competitors are more likely than non-competitors (such as those firms that operate in different product markets or across industries) to overlap in knowledge bases (Rindfleisch and Moorman, 2001). Despite the strong implications of the competitive regimes for knowledge exchange between alliance partners, extant research offers little insights into how it interferes with the influences of the determinants and performance consequences of knowledge acquisition and leakage. As a result, it remains unknown whether competitive regimes could possibly act as a contingent factor for the effects of the determinants of knowledge exchange and thereby whether it is part of the solution to the dilemma in strategic alliances.

This article aims to address these research gaps, and in so doing, makes contributions to the strategic alliance literature in the following ways. First, we propose that partner trustworthiness plays a crucial role in solving the dilemma of knowledge exchange because it not only constitutes the genesis of the relational capital of trust (Becerra et al., 2008) but also carries the dark force embedded in inter-firm relations that could subject trusting firms to risks of malfeasance and opportunistic behavior of their trustees (Gargiulo and Ertug, 2006). Moreover, we uncover alliance regimes as a contingent factor or a boundary condition under which this relational factor could resolve the tension between knowledge acquisition and leakage in strategic alliances. That is, trustworthiness exerts a positive effect on knowledge acquisition in both alliance regimes, but follows a U-shaped effect on knowledge leakage in competitive alliances and a negative effect on knowledge leakage in non-competitive alliances. The research findings suggest that the solutions to the dilemma of knowledge exchange in strategic alliances depend jointly on the competitive regimes and the level of trustworthiness. Second, we provide empirical support to the knowledge-based view that acquisition of knowledge assets enhances whereas leakage of private knowledge undermines firm competitiveness. Also, the results uncover the boundary condition for the effect of knowledge acquisition. That is, firm competitiveness increases at a decreasing rate with knowledge acquisition in competitive alliances, whereas the linear, positive effect of knowledge acquisition only holds in non-competitive alliances. Fig. 1 displays the conceptual framework.

2. Theoretical background and hypotheses

2.1. The dilemma of knowledge exchange in strategic alliances

A major incentive of firms to enter into strategic alliances is to learn and acquire useful knowledge from their partners (Das and Teng, 2000; Kale et al., 2000). Consistently, extant literature concentrates on the antecedents and consequences of knowledge acquisition, which refers to the extent to which the focal firm learns useful knowledge from its major alliance partners, such as technological, marketing, manufacturing, and management knowledge and skills (Jiang and Li, 2009; van Wijk et al., 2008). However, while a strategic alliance provides the opportunity for the focal firm to access external knowledge from partners, it also subjects the firm to the risk of losing proprietary knowledge to the partners (Khanna, Gulati, and Nohria, 1998; Kale et al., 2000; Khanna, Li et al., 2008; Oxley and Sampson, 2004).

Although the dilemma of knowledge exchange has been acknowledged in extant strategy literature, research efforts are sparse to resolve such a paradox, in part due to a lack of formal conceptualization and empirical validation of knowledge leakage in these studies. Drawing on prior studies and especially the knowledge-based view (Liebeskind, 1996; Norman, 2004), we define knowledge leakage as the extent to which the focal firm's private knowledge is intentionally appropriated by or unintentionally transferred to partners beyond the scope of the alliance agreement. If knowledge is accessed within the scope of the alliance agreement, it should not be considered knowledge leakage but normal incidents of knowledge acquisition. Thus, knowledge leakage only occurs when the focal firm's proprietary knowledge is misappropriated by a partner beyond the cooperative agreement that allows for legal knowledge sharing and exchange (Liebeskind, 1996).

Given the conceptualization, it is possible to resolve the paradox of knowledge exchange such that useful knowledge could be shared for the proper functioning of strategic alliances while the hazard of knowledge leakage could be reduced. However, early research seeks common determinants of knowledge acquisition and leakage, such as relational capital and trust in particular, only uncovering a significant, direct relationship with one aspect of knowledge flow but not both (Kale et al., 2000). For example, Norman (2004) argues that trust between alliance partners not only facilitates knowledge acquisition but also reduces the likelihood of knowledge loss; however, the empirical evidence shows that trust carries a null effect on knowledge loss. More importantly, the boundary conditions of those common determinants are by and large omitted from the scope of inquiry, thus limiting the generalizability of extant research findings. Our study extends the body of literature by proposing an origin of the relational capital—partner trustworthiness—as a common determinant of knowledge acquisition and leakage, and examining competitive regimes of strategic alliances as the boundary condition for the effects of trustworthiness. Following extant research, we examine the dilemma from a dyadic perspective — that is, in the context of a strategic alliance between a focal firm and its major alliance partner (Kale et al, 2000; Norman, 2004).

2.2. Partner trustworthiness: a relational capital perspective

Partner trustworthiness is considered a strong force that fosters trust between partners and constitutes a source of the competitive advantage of firms involved in strategic alliances (Barney and Hansen, 1994). Different from trust as an attribute of a business relationship between exchange partners, trustworthiness is an attribute of individual exchange partners (Barney and Hansen, 1994). Following Mayer et al. (1995), we