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Managing inter-organizational knowledge sharing

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ABSTRACT

Corporate knowledge is considered a crucial determinant of sustainable competitive advantages. Recent resource-leveraging strategies emphasize inter-firm collaboration and knowledge sharing *across* firm boundaries, however. This strategic paradox of protecting versus sharing knowledge suggests the need for new paradigms that reconcile intra- and inter-organizational knowledge sharing. Building on organizational collaboration and control theory, this paper investigates contingencies of inter-organizational knowledge sharing and proposes four configurations of inter-organizational knowledge sharing for managing the paradox. It concludes with a critical review, suggestions for further conceptual and empirical research, and implications for research and practice.

Introduction

A resource-based view of strategic management emphasizes a firm's need for unique, internal resources and competencies (Nelson and Winter, 1982; Shenkar and Li, 1999; Weick and Westley, 1996). Here, corporate competencies and capabilities – in particular knowledge resources – enable sustainable dynamic adaptation and competitive advantage (Gomes and Dahab, 2010; Spender, 1998). Since Penrose (1995), the resource-based view has emphasized the role of knowledge as a vital enabler of competitive differentiation. Matusik and Hill (1998, p. 683) state that "firms increasingly rely on building and creating knowledge as a necessary condition to survive".

While the resource-based view relies on firm heterogeneity (Felin and Hesterly, 2007), knowledge sharing is an action that is likely to reduce such heterogeneity given that "*even small, incremental knowledge can distinguish an organization from its competitors*" (Cohen, 1998, p. 23). As a result, academics have been investigating knowledge sharing processes across organizational boundaries in recent years (Gerlach et al., 2015; Loebbecke et al., 1999; Newell, 2015; Verdecho et al., 2006). Increasingly, firms' competitive advantage depends on cooperating with partners and sharing resources (Foss et al., 2010) – a phenomenon that has been referred to as the extended resource-based view of the firm (Caldwell and Howard, 2010).

Knowledge sharing has been defined as "*the transfer of useful know-how or information across company lines*" (Appleyard, 1996, p. 138). Research on inter-firm knowledge sharing recognizes that firms are involved in multiple temporal or more permanent agreements for cooperation (Chang and Gurbaxani, 2012; Jones and Lichtenstein, 2008; Marabelli and Newell, 2012; Zimmermann and Ravishankar, 2014). It assesses the strategic implications of a firm's knowledge-involved interactions with its direct environment (Reve, 1990). Enabled by the emergence of advanced information and communication

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technologies, cooperation between firms on the same horizontal level in an industry, even amongst those without prior long-term relationships, has become common (Feller et al., 2013; Hardy et al., 2003). Moreover, vertical cooperation between customers and vendors has changed the organization of supply chains (Rollins et al., 2011).

Yet inter-organizational knowledge sharing confronts firms with a paradox of dealing with contradictory requirements (Hamel et al., 1989; Smith and Lewis, 2011; van Fenema and Loebbecke, 2014). On the one hand, it may enhance total value-added as firms can translate unique, scarcely accessible resources from their partners into new business opportunities. On the other, it may affect the uniqueness and thus competitive contribution of a firm's knowledge repository. Hence, a potential conflict in the context of collaboration between competitors under 'coopetition' arises (Gnyawali and Park, 2011; Wiener and Saunders, 2014; Young et al., 2012). Although there is increasing competitive advantage from joint learning, firms also need to secure their own competitive advantage (Gnyawali and Park, 2011). Arising from this, current research has elaborated on inter-organizational knowledge sharing from a strategic and social perspective (e.g., Abou-Zeid, 2005; Salvetat et al., 2013); yet it pays little attention to addressing the competitive paradox of inter-organizational knowledge sharing to reap the benefits of cooperating without losing one's own advantage.

The objective of this conceptual paper is to unpack the ability to balance inter-firm knowledge sharing as a challenge of coordinating and controlling the behaviors of people *within* an organization, while coordinating and controlling knowledge sharing *between* organizations. Thus, the paper investigates inter-firm collaboration involving knowledge with assumed operational and business value beyond the context of any cooperative agreement. Instead of collaboration resulting in '*asset specificity*' (Williamson, 1985), the focus is on the inverse situation of making assets more generally available. The paper assumes that both parties can translate collaborative knowledge into adjacent or overlapping business capabilities and hence exploit additional opportunities beyond the collaboration. It suggests partially diverging interests between collaborating partners that trigger political as well as operational processes (Child and Rodrigues, 2011).

Moreover, the paper offers insight into the contingencies pertaining to knowledge sharing related to coordination and control mechanisms (Vlaar et al., 2006). These mechanisms extend to both intra- and inter-organizational knowledge sharing challenges. This work thus complements and extends the knowledge-based theory of the firm. It stresses, on the one hand, coordination of knowledge practices within organizational boundaries and, on the other, the complexity of inter-organizational knowledge sharing. Taken together, this approach contributes to the understanding of the paradoxical requirements of intra- and inter-organizational knowledge sharing.

The paper is organized as follows. It first investigates three contingency dimensions of inter-organizational knowledge sharing: types of knowledge (tacit and explicit), mode of knowledge sharing (unilateral or bilateral), and dynamics of knowledge sharing (intended and actual). Acknowledging the difference between sharing intention and actual sharing outcome, the paper subsequently focusses on inter- and intra-organizational coordination and control processes and their implications of four configurations of inter-organizational knowledge sharing. It concludes with implications for practice and for research.

Inter-organizational knowledge sharing

Sharing knowledge across organizational boundaries has been studied in domains as diverse as new product development and software projects (Heisig, 2009; Majchrzak et al., 2005; Malhotra et al., 2001; Peng et al., 2013; Popovic et al., 2014; Vlaar et al., 2008). These studies tend to focus on micro-level organizational practices such as interpersonal interactions, team-based structures, network ties, business intelligence, and challenges of remote communications. However, knowledge sharing represents a process at this micro-, but also at the meso-organizational and inter-organizational level (Lepak et al., 2007; Loebbecke et al., 1999; Shollo and Galliers, forthcoming). It translates micro practices constituting knowledge sharing into a phenomenon with strategic implications. To conceptualize this knowledge sharing, the paper distinguishes three dimensions of contingency: the types of knowledge, the mode of knowledge sharing, and the dynamics of knowledge sharing.

Knowledge types

This research pursues Grant's (1996b) suggestion of focusing on types of knowledge, their inherent characteristics, and their respective managerial consequences. In particular, the common distinction between explicit and tacit knowledge has influenced conceptual and empirical research on strategic and organizational knowledge management (Berry and Broadbent, 1988; Kogut and Zander, 1992; Nonaka, 1991; Nonaka and Takeuchi, 1995; Polanyi, 1967; von Krogh, 2009; von Krogh et al., 2001).

Explicit knowledge refers to concepts, information and insights that are specifiable and can be formalized in rules and procedures (Walsh and Dewar, 1987). Access, storage and transfer of this knowledge are achieved by corporate documents and information systems such as databases. For Dyer and Singh (1998) explicit knowledge may just be information. For Cohen (1998), knowledge is information in context, with information being subsumed into knowledge, considering it a form of explicit, formalized knowledge. Examples of explicit knowledge include detailed engineering specifications for software development or product manufacturing.

Tacit knowledge refers to less specifiable insights and skills that are 'embedded' in individuals or an organizational context (Weick and Westley, 1996). It is associated with experience and may be about 'human asset specificity'. Employees develop and refine collectively routines to achieve organizational adaptation and learning (Nelson and Winter, 1982). March and