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Socialization and innovation: Insights from collaboration across industry boundaries (Aspects of socialization for innovation)

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ABSTRACT

Industry convergence as a phenomenon forcing organizations to foster more open forms of innovation, such as collaborating with partners from different industries holds high potential for really new innovation. At the same time knowledge originating from a different industry is more difficult to transfer. Accordingly, organizations that are able to develop socialization between collaborating partners, increasing the understanding for one another's values and background, are able to benefit from enhanced knowledge processing. This paper draws on the concept of social integration and open innovation literature to investigate how socialization facilitates knowledge transfer in collaborative innovation. Based on expert interviews, we conduct in-depth case study analyses in six organizations performing innovation across industry boundaries. Our findings illustrate that organizations can develop socialization to facilitate knowledge transfer across industries by implementing innovation practices and routines. Moreover, the results reveal how distinct socialization effects facilitate the internalization of knowledge of a different industry, the externalization of knowledge to a different industry and the combination of knowledge with a partner from a different industry.

1. Introduction

Nowadays, organizations are increasingly challenged by the phenomena of industry convergence (Hacklin et al., 2013), a term which refers to the dissolving of industry boundaries and converging value propositions, technology or innovation (Bröring and Leker, 2007; Choi and Valikangas, 2001). Organizations are forced to adapt to this development by collaborating with organizations from foreign industries. In this context, the term foreign industry refers to industries which are not operating in the industry sector of the respective focal organization and does not have anything to do with boarders between countries (Enkel and Heil, 2014; Shan et al., 1994). However, such collaboration across established industry boundaries is considered to be beneficial for organizations, helping them create radical innovation and competitive advantages (Herstatt and Kalogerakis, 2005; Enkel and Gassmann, 2010). In order to profit from collaboration across industry boundaries, organizations need to be able to manage knowledge transfer with their foreign industry partners (Zahra and George, 2002; Lane et al., 2006; Todorova and Durisin, 2007; Nooteboom et al., 2007). There are several benefits associated with innovation across industry boundaries such as high potential for disruptive, radical or breakthrough innovation (Enkel and Gassmann, 2010; Nooteboom et al., 2007; Kalogerakis et al., 2010; Li and Vanhaverbeke, 2009; Datta and Jessup, 2013) and technological evolution (Jeppesen and Lakhani, 2010; Rosenkopf and Nerkar, 2001). At the same time, the knowledge to be transferred comes from a foreign knowledge domain and is therefore more challenging to incorporate (Nooteboom et al., 2007): Organizations have to collaborate with partners from different industries whose actions are based upon values and standards that differ from their own. Consequently, there is a lack of socialization between the partners, resulting in a lack of connectedness or a common basis which prevents them from identifying themselves with the partnership (Adler and Kwon, 2002; Nahapiet and Ghoshal, 1998). This makes knowledge transfer between the collaborating partners more difficult (Nonaka, 1994). In other words, organizations aiming to foster collaborative innovation with partners across industry boundaries need to be able to absorb knowledge from an external industry, i.e. they need to develop high absorptive capacity (Nooteboom et al., 2007; Cohen and Levinthal, 1990).

Literature indicates that mechanisms of social integration play an important role in the processing of external knowledge and the development of absorptive capacity (Zahra and George, 2002; Todorova and Durisin, 2007; Jansen et al., 2005; Lewin et al., 2011; Ebers and Maurer, 2014). Social integration mechanisms "enable the organization to share, communicate, and transfer individual-level learning to the organizational level" (Lane et al., 2006 p. 846). They refer to diverse aspects of social relations, such as shared values, standards or goals and other mechanisms that build connectedness (Jansen et al., 2005; Tsai and Ghoshal, 1998) or socialization among partners (Adler and Kwon, 2002; Nahapiet and Ghoshal, 1998). Therefore it is beneficial for partners to utilize frequent interaction with partners creating emotional closeness, intimacy and trust (Granovetter, 1973). There are, however,

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organizations that nurture their social relations and interaction especially on behalf of boundary spanners which maintain strong relations with potential knowledge providers outside and inside the organization (Rosenkopf and Nerkar, 2001; Ebers and Maurer, 2014). Overall, mechanisms of social integration affect an organization's ability to transfer external knowledge (Jansen et al., 2005). There is no common understanding of socialization and scholars' definition, purpose and underlying processes tend to differ (Nonaka, 1994; Cooper-Thomas and Anderson, 2006; Van Maanen, 1975; Van Maanen and Schein, 1979; Ardts et al., 2001; Bauer et al., 2007). Socialization refers to trusting formal and informal links among members of a network, among organizations or during collaboration as a process which enhances knowledge transfer (Van Maanen, 1975; Van Maanen and Schein, 1979; Brown and Duguid, 2000, 2001; Nonaka and Takeuchi, 1995), learning and understanding values, norms and behavior (Van Maanen, 1975). This paper focuses on how socialization mediates knowledge transfer and on its positive effect on innovation (Van Maanen and Schein, 1979). Theory argues that socialization is relevant for knowledge transfer in innovation collaboration between partners originating from the same industry (Todorova and Durisin, 2007; Hotho et al., 2012). However, considering the increasing relevance of industry convergence, there is a lack of understanding how socialization can foster knowledge transfer between partners originating from different industries. Moreover, there is only little insight into how socialization might be systematically developed in order to enhance an organization's ability to transfer external knowledge (Volberda et al., 2010). We aim to close this gap by addressing the following research question: How can organizations develop socialization in order to benefit from enhanced knowledge transfer and innovation?

Based on six case studies, conducted in organizations operating in the German mechanical engineering industry, we conducted empirical analysis on how these organizations manage knowledge transfer and innovation, especially across industry boundaries. This study reveals that organizational innovation practices and routines play an important role in the development and operationalization of socialization between collaborating partners. Furthermore, the results show how organizations can develop socialization in collaboration to improve knowledge transfer which, in turn, affects innovation, in three distinct ways: internalizing knowledge (outside-in), externalizing knowledge (inside-out) and combining knowledge (coupled approach) with partners from different industries. Based on our findings, we contribute to current literature on inter-organizational collaboration, the understanding of social integration mechanisms and the management of innovation across industry boundaries.

2. Theoretical framework

2.1. Innovation and collaboration across industry boundaries

More and more organizations have started to transfer knowledge and collaborate with partners operating in industries different from their industry of origin. Their deliberate recombination of cross-industry knowledge enables these organizations to develop radical innovation (e.g. Enkel and Gassmann, 2010; Kalogerakis et al., 2010; Gassmann et al., 2010; Dahl and Moreau, 2002). The attractiveness of so-called cross-industry innovation is founded in the imitation, adaption or reuse of already existing solutions from other industries in order to face challenges or fulfill the needs of the organization (Enkel and Gassmann, 2010). In doing so, organizations follow Schumpeter's (1939) often-cited conclusion that innovation mostly does not follow knowledge or technology which is new to the world, but that it is a recombination of existing knowledge in a novel context (Kogut and Zander, 1992; Hargadon, 2002).

And while Giuri et al. (Giuri et al., 2007) determined that, in many cases, patents are developed in collaboration with internal as well as external partners that originate from the same field or industry, numerous researchers have shown empirically that the effort of crossing domain-specific boundaries is likely to pay off by resulting in radical innovation outcomes (Nooteboom et al., 2007; Kalogerakis et al., 2010; Li and Vanhaverbeke, 2009; Datta and Jessup, 2013). In prominent examples such as BMW's iDrive technology, which was adapted from the gaming industry, the crossing of industry boundaries and the resulting benefits are obvious (Enkel and Gassmann, 2010). In contrast, when the cross-industry approach does not result in a completely new product but rather in a novel use of material, a new application of a technology, a new component or an implementation of an existing process in a novel context, the cross-industry approach is not that obvious to outsiders. Nevertheless, such integration of knowledge developed and tested by partners from different industries reveals potential when it comes to the reduction of risk in new product development and to saving resources such as costs and development time (Kalogerakis et al., 2010; Gassmann and Zeschky, 2008). How much an organization can benefit from cross-industry collaboration is influenced by its ability to transfer knowledge originating from a different industry context to its existing knowledge stock and to make use of it in innovation processes (Gassmann et al., 2010; Gassmann and Zeschky, 2008). Thus, if organizations are able to facilitate knowledge transfer in cross-industry collaboration to an extent, which enables them to make use of knowledge with a high cognitive distance to their own industry, they can expect higher innovation potential on the one hand and a higher degree of innovation novelty on the other (Nooteboom et al., 2007; Dahl and Moreau, 2002). At the same time, the collaborating partners come from different industry backgrounds, have different specific cultural mindsets and are shaped by industry-specific socialization — aspects which might hinder them from transferring knowledge or exploiting its full potential (Herzog and Leker, 2010). Hence, one main challenge for organizations in terms of collaboration across industry boundaries is managing and optimizing knowledge transfer with partners from a different industry context.

2.2. Socialization and collaboration across industry boundaries

Socialization is a concept originating from sociology that refers to the process of entering a new social context and acquiring knowledge, skills and behavior in order to act in and become part of this context (Brim, 1966). In this study, the social context is a distant industry, in which the collaborating partner operates, and socialization is required to facilitate knowledge transfer with the collaborating partner. Our focus is on two aspects in particular: the development of socialization between partners from different industries and the effects of this socialization in terms of knowledge transfer and innovation.

Nonaka and Noboru (Nonaka and Noboru, 1998) link socialization with knowledge transfer through activities which make individuals spend time together. Accordingly, knowledge is identified at the place and time of interaction, with the latest information available, and new ideas can be shared directly as personal knowledge (Nonaka and Noboru, 1998). Also, formal and informal links among collaborating partners (Brown and Duguid, 2000, 2001; Nonaka and Takeuchi, 1995; Nobel and Birkinshaw, 1998) as well as sharing time and space contribute to socialization (Nonaka and Noboru, 1998). Furthermore, socialization evolves over time and can create a common distinct identity for those involved. In doing so, it establishes social integration leading to highly efficient knowledge integration and utilization (Van Den Bosch et al., 1999; Camerer and Vepsalainen, 1988). Socialization also refers to the cognitive aspect of social relations (Jansen et al., 2005) and fosters their creation between individuals within and across organizations (Van Maanen and Schein, 1979; Ashforth and Saks, 1996).

Socialization is essential to build links between different units and organizations (Nobel and Birkinshaw, 1998) and creates a tacit understanding of rules and values (Van Den Bosch et al., 1999; Camerer and Vepsalainen, 1988; Volberda, 1998). Hence, socialization can enable organizations to develop the appropriate attitude and action for knowledge

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