Network learning: Episodes of interorganizational learning towards a collective performance goal

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ARTICLE INFO

Article history:
Received 31 December 2015
Received in revised form 20 July 2016
Accepted 4 September 2016
Available online xxx

Keywords:
Inter-firm networks
Network learning
Interorganizational learning
Hub firms
Performance goals
Horizontal networks

ABSTRACT

Little is known about learning processes in horizontal networks. This study focuses on networks as learning entities, i.e. learning by multiple organizations as a group, and the mechanisms involved in developing and addressing a network-level performance goal. By using a narrative approach, we gather in-depth primary data from network members to examine: how do firms engage in network learning? and, how is network learning coordinated towards a performance goal in a horizontal inter-firm network? Our findings comprise two learning episodes: ‘learning how to compete’ and ‘learning how to perform’. These episodes help us to understand network learning processes; the relationship between network learning and organizational learning; and the regulatory role a hub firm provides towards a collective performance goal.

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1. Introduction

Small- and medium-sized firms, producer firms in particular, who enter an inter-firm network often perceive this as a key way to compete (Håkansson & Snehota, 2006; Tikkanen, 1998). Often these firms, who are essentially part of a global value chain (Bair & Palpacuer, 2015; Stringer, Hughes, Whittaker, & Haworth, 2016), consider their own resources in critical areas such as innovation, to be not entirely effective if they were to compete alone (Murto-koivisto & Vesalainen, 1994; Tikkanen, 1998; Yli-renko, Autio, & Tontti, 2002). The various network forms used in any network that compete in this setting are conceptualized by the knowledge-based theory of networks as venues for knowledge exchange (Dyer & Hatch, 2006; Maskell, 2001; Phelps, 2010; Tallman, Jenkins, Henry, & Pinch, 2004; Van Wijk, Jansen, & Lyles, 2008; Weck & Blomqvist, 2005), where resources, capabilities and knowledge are disseminated and circulated among members (Easterby-Smith, Lyles, & Tsang, 2008). As such, the focus in these networks has primarily been on uncovering the benefits of knowledge transfer (Jensen & Szulanski, 2007; Reagans & McEvily, 2003), rather than on how the learning process occurs at the network level.

The process, involving the capacity of an organization (firm) to learn from others, is also referred to as organizational learning within a network (Easterby-Smith et al., 2008; Knight, 2002). Few studies have examined the collaborative processes firms engage in when learning as a network: a learning process where the network is the learner entity as a whole. Learning at the network level goes beyond the multiple learning processes that occur at the firm level in a network (Dyer & Nobeoka, 2000; Knight, 2002; Knight & Pye, 2004). How member firms engage in a network learning process and what coordination and regulatory mechanisms are required have received limited attention. In particular, little is known on the processes surrounding developing and addressing network-level performance goals (Kilduff & Tsai, 2003; Mariotti, 2012; Provan, Fish, & Sydow, 2007). There is a call for in-depth qualitative research in this general area (Knight & Pye, 2004; Mariotti, 2012; Phelps, Heidl, & Wadhwa, 2012).

This study attempts to advance understanding on network learning by examining how do firms engage in network learning? and, how is network learning coordinated towards a performance goal in a horizontal inter-firm network? To gain a granular-level understanding of this process, we focus our focus to the farm-to-process industry network in the New Zealand (NZ) dairy
industry. Network members play a vital role in producing 25% of the country's total export revenue. By using this unique context and the narrative approach, we track the network learning path of a fragmented group of >8059 firms (i.e., farming units) that ultimately influences the quality of the milk they produce, where 95% is sold in the international market (LIC, 2015).

Our findings identify two learning episodes: ‘learning how to compete’ and ‘learning how to perform’. These episodes enable us to contribute to network learning in the following ways. First, we identify a network learning process and how it centres on developing a collective performance goal to compete globally. Second, we discuss the relationships between network learning and organizational learning that may increase the network firms and the network’s competitiveness. Third, we provide evidence on how a hub firm regulates network learning. By analysing these learning episodes, we can delineate the underlying stages and processes involved in developing network learning that are coordinated via the regulatory role a hub firm provides towards a performance outcome.

Next, we review the network learning literature. We then explain the rationale for using a single-case study methodology. This is followed by the findings section that identifies learning episodes and explains the regulatory role of a hub firm. Finally, we offer a theoretical discussion and practitioner implications.

2. The process of network learning

Networks are considered important sources of knowledge for the firms (Maskell, 2001; Powell, Koput, & Smith-Doer, 1996; Tallman et al., 2004). Some authors (Grant, 1996; Spender & Grant, 1996) argue that it is the knowledge within organizational structures that is a primary resource upon which competitive advantage is founded, while other authors assert that the network is the locus of innovation, rather than the individual firm, due to the access it provides to knowledge and resources that would not otherwise be available (Powell et al., 1996). Networks have also been associated with limiting opportunism between firms by converting single transactions into long-term cooperation and fostering trust (Gulati & Sytch, 2008; Ring & van de Ven, 1992; Simonin, 1997; Teece, 1992). As such, inter-firm networks have been conceived as knowledge-sharing vehicles where member firms use the network to transfer knowledge, and thereby avoid many costs associated with knowledge transactions across markets (Möller & Svanh, 2006; Reagans & McEvily, 2003).

The knowledge transfer literature (e.g., see reviews by Easterby-Smith et al., 2008; van Wijk et al., 2008) regularly affirms the importance of interorganizational knowledge exchange on performance and innovativeness for those organizations involved. The network is viewed as the context in which knowledge transfer occurs rather than being a learning entity itself. Yet, some empirical studies have indicated that despite the initial interest in firms entering a network might be to explore external sources of specialized knowledge, by working together these firms might be able to create new shared knowledge and jointly improve their working practices, technical knowledge and skills (Arikan, 2009; Coghlan & Coughlan, 2013; Mariotti, 2011). This process has been identified as network learning (Dyer & Noebeoka, 2000; Knight, 2002; Knight & Pye, 2004; Peters, Pressrey, & Johnston, 2016). The term network-level learning has been initially defined by Dyer and Noebeoka (2000, p. 364) as ‘(a) knowledge development and acquisition that is useful in a specific network context, or (b) knowledge (e.g. a best practice) that is developed or resides within the network that is discovered and documented/codified by a network-level knowledge storage mechanism’. As an example, Dyer and Noebeoka (2000, p. 364) cite: ‘Knowledge acquired, stored, and diffused by the supplier association quality committee (e.g. through its quality training program) would constitute network-level learning. This activity stores knowledge at the network level, and the knowledge is then made widely available for individual member firms to use in changing their individual firm practices. Thus, the changes (learning) that take place at the individual firm level are due to participation in network-level learning activities’. Similarly, Knight (2002, p. 428) defines network learning as ‘learning by a group of organizations as a group. If, through their interaction, a group of firms changes the group’s behaviour or cognitive structures, then it is the group of organizations that is the “learner”, not just the individual organizations within the group. In such a case, the network can be said to have learnt’. In this conceptualization, network learning is more than the sum of the learning of individuals, groups and organizations that constitute the network; network learning processes would result in changes to attributes of the network, such as interaction processes and structures, and shared narratives (Dunford & Jones, 2000; Knight, 2002). In that case, evidence of shared cognitive structures (e.g., norms, shared understandings or narratives) and collective coordination practices across a network would support network learning.

Network learning is frequently associated with interorganizational learning. Interorganizational learning refers to learning at the level of pairs or groups of organizations that are proactively cooperating (Crossan, Maurer, & White, 2011; Holmqvist, 2003; Larsson, Bengtsson, Henrikkson, & Sparks, 1998; Levinson & Asahi, 1995). Although network learning involves interorganizational learning, we intentionally use ‘network learning’ to refer to a ‘group of organizations learning as a group’ and differentiate it from other types of interorganizational learning, such as dyadic learning between two organizations in an alliance or organizational learning arising through interaction between organizations but without affecting them as a group.

Despite the growing interest on the knowledge-based view of networks, limited research has been conducted on the knowledge outcomes at the whole network level (Coghlan & Coughlan, 2015; Knight, 2002; Phelps et al., 2012). Our interest is to address this gap in the literature and focus on networks as learning entities. We aim to contribute to the understanding of the network learning process and the coordination mechanisms involved.

3. Coordinating network learning towards a performance goal

Because of the lack of research on network learning, the outcomes of the learning process can be controversial with regard to firms’ or a network’s performance. As such, network learning and the mechanisms associated with this concept undoubtedly play an important, but not well understood, role in regulating the learning process towards a performance goal for the whole network (Kilduff & Tsai, 2003). Although some authors argue that network learning is not associated with performance improvements (Knight & Pye, 2004), other authors argue that network learning is a potential source of competitiveness for participant firms (Coghlan & Coughlan, 2015; Dyer & Hatch, 2006; Mariotti, 2011). On one side of the argument, Knight and Pye (2004) found no clear relationships between network learning and strategic change or network performance improvements when investigating the prosthetics supply network. Although the firms in the network had learned as a group, there was no clearly defined agenda for change and no unitary authority with a mandate to plan and control the network (Knight & Pye, 2004, p. 483). On the other side of the argument, Dyer and Hatch (2006) found networks are a critical unit of analysis in explaining knowledge-related outcomes associated with relational competitive advantage in a suppliers’ network. In addition,
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