
Inter-Organizational Knowledge Transfer: Current Themes and Future Prospects

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ABSTRACT Many papers have been published recently in the fields of strategy and international business research incorporating the role of organizational knowledge as a basis of firm competitive advantage. While such knowledge is normally developed within the firm, it is important that firms possess the ability to learn from others in order to meet the increasing pace of competition. Knowledge transfer, defined here as an event through which one organization learns from the experience of another, has thus become an important research area within the broader domain of organizational learning and knowledge management. This paper presents a theoretical framework, identifies key themes covered by the six articles included in the Special Issue on Inter-Organizational Knowledge Transfer, and then discusses priorities for future research.

INTRODUCTION

Empirical research over at least the last 20 years shows that a firm may significantly improve its knowledge and innovative capabilities by leveraging the skills of others through the transfer of knowledge both within and across firms. However, knowledge transfer is a complex phenomenon and in practice, successful transfer is often not easy to achieve. Even for the relatively simple case of transferring knowledge from one unit to another within the same firm, there are a number of factors that may affect the effectiveness and the outcome of transfer (Szulanski, 1996). Transferring knowledge between organizations brings more complexity because of the multifaceted nature of the boundaries, cultures, and processes involved. It is therefore an interesting domain for further theoretical investigation.

This Special Issue responds to both theoretical agendas and practical concerns, including the increasing requirement of companies to manage processes of inter-organizational knowledge transfer, and the growing evidence that organizational learning processes and knowledge can serve as a competitive advantage to a firm. Firms now have to manage

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many relationships both within and across national borders. They can simultaneously be partners, competitors, suppliers and customers for each other, and this raises many issues including the problems of 'leakage', the dynamics of learning races, and the knowledge properties of networks. There is a broad assumption that increased knowledge sharing contributes to an organization's performance and/or innovativeness, and that if firms understand the knowledge transfer process and the variables that affect it, the firm's capabilities can be enhanced.

Following the call for papers, we received a few enquiries from potential contributors about whether knowledge transfer between units within an organization would fit the scope of the Special Issue. Our response was that intra-organizational transfer was optional, but that inter-organizational was essential. These two processes involve different kinds of boundaries, each with distinct problems. However, as demonstrated by Holmqvist (2004), there are also interactions between inter- and intra-organizational learning, and boundaries play an important role both in distinguishing between inter- and intra-organizational processes, and in framing the transfer process itself. We will return to these later.

This introductory article is organized as follows. In the next section, we present a framework for understanding inter-organizational knowledge transfer. Then we review a number of questions that were identified in the call for papers in the light of the six papers included in this special issue. Finally we discuss two broad areas, boundaries and the relationship between inter- and intra-organizational knowledge transfer, as promising topics for future research into knowledge transfer.

A FRAMEWORK FOR INTER-ORGANIZATIONAL KNOWLEDGE TRANSFER

In his seminal article, Grant (1996) identifies the characteristics of the donor firm and the recipient firm, the attributes of the knowledge, and the knowledge transfer process itself as central to developing learning capabilities which lead to the competitive advantage of firms. This is similar to the thinking of Argote et al. (2003), who identify properties of knowledge, properties of units, and the relationships between units as central elements for mapping the knowledge management context. In this section we elaborate on these two models in order to provide a starting point for mapping both current and future research on inter-organizational knowledge transfer. The framework shown in Figure 1 is based on the case of dyadic knowledge transfer. It comprises four sets of factors: the resources and capabilities of both the donor and recipient firms, the nature of knowledge that is being exchanged, and inter-organizational dynamics.

First, we consider the characteristics of the donor and the recipient. There is a degree of symmetry between the two for two reasons: first, as noted above, knowledge transfer may take place in both directions as roles and relationships change through alliances and customer/supplier networks; and second, the best teachers are often the best learners. A key factor in both cases is absorptive capacity, which is the ability to recognize the value of new knowledge and to assimilate and use that knowledge (Cohen and Levinthal, 1990). The recipient firm's absorptive capacity is in turn influenced by its past experiences, culture, and knowledge retention capabilities (Lane and Lubatkin, 1998). Once

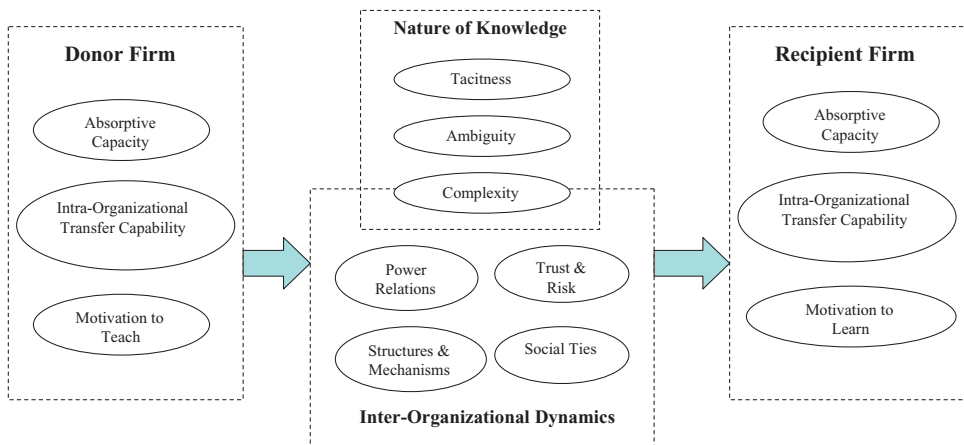


Figure 1. Factors influencing inter-organizational knowledge transfer

knowledge comes into an organization from some external source, the recipient needs to rely on its ability for intra-organizational knowledge transfer to diffuse the knowledge within the organization so that it can be assimilated and utilized. Szulanski's (1996) study has shown that this process can be difficult and should not be taken for granted. At the same time the donor needs absorptive capacity to appreciate the potential value of knowledge for passing to the recipient, and needs intra-organizational transfer capability if the information is to be made available to the recipient in an efficient manner. Absorptive capacity and intra-organizational transfer capability are interrelated in the sense that an organization which is good at absorbing external knowledge should also be well equipped for diffusing the knowledge within its own boundary.

In addition, the recipient needs to be motivated to gain knowledge, and the donor must have something worthwhile to offer. While it has been established that the recipient's intent to learn is a key determinant of the extent of knowledge transfer (Hamel, 1991), the donor's motivation to teach can be an equally important factor (Ko et al., 2005). In fact, the two may affect each other; for example, the lack of motivation to teach may dampen the enthusiasm for learning, and vice versa.

By definition, inter-organizational knowledge transfer involves at least two organizations, and we therefore need to understand the interactive dynamics between these organizations. We have identified four broad factors here: power relations, trust and risk, structures and mechanisms, and social ties. The donor and the recipient are often in a situation of power asymmetry, with the former being in a more superior position. The pace of knowledge acquisition by the recipient is a key factor affecting its bargaining power relative to the donor, as learning shifts the dependency relation. When the recipient finds that there is little further that it can learn from the donor, the basis for cooperation may deteriorate. Kale and Anand's (2006) study of international joint ventures in India indicates that once a foreign partner has acquired local knowledge, unless the local partner is contributing other valuable skills to the alliance, the rationale for cooperation will be eliminated.

The donor often perceives a risk of unintended transfer of knowledge that leads to the erosion of its competitive advantage (Norman, 2002). While this risk is real, the recipient may face a risk that the knowledge that it receives is not useful or not of a high quality. Thus source credibility is considered a relevant factor (Ko et al., 2005), and is associated with the issue of inter-organizational trust. Trust facilitates knowledge transfer by creating a sense of security that the knowledge in question will not be exploited beyond what is initially intended (Dhanaraj et al., 2004).

The structure of the inter-organizational relationship refers to the context in which knowledge transfer takes place, and the transfer mechanisms which are established within that context. More often than not, organizations have to be in some form of strategic alliance before there is any significant knowledge flow from one to another. As strategic alliances can be in various forms, ranging from non-equity, such as licensing, to equity arrangements, such as joint ventures, they affect how organizations interact and how knowledge is transferred (Hagedoorn and Narula, 1996).

Regardless of the structure of the inter-organizational relationship, research has suggested that informal, social ties between members of the same organization (Hansen and Lovas, 2004) or different organizations (Bell and Zaheer, 2007) are superior conduits for knowledge flow between geographically distant locations. Such ties probably also help to alleviate the cultural differences, whether national or corporate, which may exist between organizations.

Lastly, the nature of the knowledge being transferred, such as the degree of tacitness, ambiguity, or complexity, will also impact knowledge transfer. Argote et al. (2003) establish that the properties of knowledge affect the ability to transfer that knowledge, the rate at which it will be assimilated, and how much is retained. According to Simonin (2004), for example, the ambiguity of knowledge is directly and negatively related to knowledge transfer, and ambiguity is associated more with tacit knowledge than with explicit knowledge.

RESEARCH QUESTIONS POSED

The above framework is offered as a brief summary of the current areas of research into inter-organizational knowledge transfer, and as a background against which the papers in the Special Issue can be reviewed. In the call for papers we identified a number of questions, which have both theoretical and practical significance, although we indicated that these should not be regarded as a comprehensive listing, and other topics would also be acceptable. The six papers accepted (out of a total of 41 submissions) do however help to advance several of these questions, and also provide some guidance for future research agendas. We therefore comment below on each question, in the light of the papers included in the Special Issue.

How Do the Characteristics of the Donor Firm, Recipient Firm, Knowledge Itself, and the Boundaries Between Them Affect the Transfer Process?

This is a broad question, which relates closely to the conceptual framework developed above. Although the variables that support or inhibit learning have received significant

research attention, especially in the context of intra-organizational knowledge transfer, there are still gaps in the literature which need to be addressed. For example, what boundaries have the greatest impact on knowledge transfer? Which characteristics are most effective for improving inter-organizational knowledge transfer? Van Wijk et al. (2008) identify that organizational characteristics such as size and absorptive capacity positively impact knowledge transfer. Although absorptive capacity is a broadly used variable in the literature, none of the empirical papers in our issue investigate it explicitly. In addition, none of the papers, except for Van Wijk et al. (2008), identify the importance of the relatedness of the knowledge between the donor and the recipient.

Other characteristics are mentioned. For example, Pérez-Nordtvedt et al. (2008) show that learning intent is critical to knowledge transfer, and Becerra et al. (2008) suggest that firms that are willing to take risks are more willing to transfer explicit knowledge to recipient firms that have integrity. In their study, Mason and Leek (2008) utilize the power imbalance between firms to explain some of the difficulties in building inter-firm routines and the sharing of knowledge. They also suggest that space may be a barrier to inter-firm learning unless firms invest in overcoming it. Finally, Sammarra and Biggiero (2008) focus on the nature of knowledge itself, demonstrating the relative salience of technological, market and managerial knowledge within inter-firm collaborations, and showing how the search for capabilities is idiosyncratic to each firm.

Thus in terms of the characteristics of the firms or boundaries influencing knowledge transfer, we see absorptive capacity, motivation or learning intent, power issues, risk-taking and geographic position as the characteristics most prevalent in our papers. Some promising areas for further research include investigating the organizational antecedents of absorptive capacity, and investigating how the nature of knowledge affects the transfer process.

What is the Evidence that Learning Has Occurred?

Knowledge transfer can be measured by changes in knowledge, levels of innovativeness, or performance of the recipient firm. An important challenge is that a significant component of the knowledge that firms acquire may be tacit and not easily measured. On the other hand, assessing knowledge transfer through measuring changes in performance poses the difficulty of controlling for factors that are not related to the transfer. All of the papers in the Special Issue have some way of determining that knowledge transfer occurs, and most authors discuss in their papers the need for better classifications of knowledge.

What we, as the editors, saw was that the qualitative papers were able to describe in greater detail the knowledge that was transferred. For example, Mason and Leek suggest that besides *know-how* and *know-why*, *know-who* was central to gaining knowledge and improving practice. The quantitative papers on the other hand, developed some new measures for knowledge. For instance, Pérez-Nordtvedt et al. (2008) asked respondents to identify the characteristics of knowledge based on the value of assets in the resource-based view (i.e. value, rareness, inimitability, and non-substitutability). They found that if the knowledge was valuable, the recipient would want to absorb it. Hence, donors which possess knowledge that is valuable, rare, and non-substitutable are perceived as

attractive by recipients. Several authors refer to knowledge as tacit or explicit and measure each type by describing the characteristics of tacit (unable to be codified, experiential, etc) or explicit (can be written down, taught, etc). Van Wijk et al. (2008) identify that in prior research studies, ambiguity of knowledge has a significant, but negative, impact on knowledge transfer.

The implications for future research are that different methods are able to illuminate different facets of knowledge and learning, and, as Sammarra and Biggiero (2008) suggest, perceptual measures are just as important as more objective ones. Hence there is a need for balance in the measures and foci of the studies conducted.

What Are the Mechanisms Used and in Which Phases of Knowledge Transfer?

Many mechanisms exist for transferring knowledge from one firm to another. Some examples include training members of the recipient firm, planned socializing activities, transferring experienced personnel, and providing documents, blueprints or hardware that embody the knowledge transferred to the recipient firm. Sammarra and Biggiero (2008) identify from social network analysis the phases through which their firms went. They show the importance of interactions with multiple firms and how the exchange of multiple types of knowledge provides mechanisms which assist firms to acquire a holistic knowledge structure, allowing them to develop new competencies and know-how. They suggest that the more mechanisms supporting both formal and informal interactions between individuals and groups of the organizations are used, the more likely will be the transfer of multiple types of knowledge.

The two case study papers in the Special Issue provide rich descriptions of the mechanisms used for knowledge transfer. Mason and Leek (2008) suggest that two types of mechanisms which influence practice are knowledge articulation and knowledge codification. Knowledge articulation includes such things as conferences or inter-firm reviews, while knowledge codification includes contracts, documents, review procedures or decision support systems. And Harryson et al. (2008) demonstrate the important transitions between the 'open' exploration phase, and the more 'closed' exploitation phase in the development of new products. We think that there is potential to explore further the distinct phases in a knowledge transfer process, since, as Van Wijk et al. (2008) suggest, there is a gap in the literature here.

How Does the Tension Between Cooperation and Competition Affect the Dynamics of Knowledge Transfer?

Inter-firm knowledge transfer often takes place in the context of strategic alliances. The conventional wisdom that strategic alliances should be a win-win scenario has been challenged by the concept of learning races whereby the firm that learns fastest will dominate the relationship and become, through cooperation, a more formidable competitor (Hamel, 1991). Firms that perceive themselves to be engaging in a learning race will probably behave differently in the process of transferring or acquiring knowledge than firms that do not. This was not a major issue for the papers in the Special Issue, but

two of the papers touch on this theme. First, Sammarra and Biggiero (2008) suggest that if there is access to, and recombination of, diverse knowledge in a network, it might be difficult to establish barriers to protect the competences that each network member has in various knowledge fields. Next, Becerra et al. (2008) address leakage by suggesting that it is more dangerous to transfer explicit knowledge than tacit, because explicit knowledge can be replicated easily.

In some respects we were surprised that issues of 'coopetition' did not feature more extensively in the papers; we suspect that this is an area which will attract greater attention in the future due to the combination of theoretical and practical concerns to understand and manage the trade-offs between cooperation and competition.

Which Types of Structure Offer a More Effective Platform for Knowledge Transfer?

Structures represent one kind of context that can encourage or hinder knowledge transfer. Common forms of structures are strategic alliances and networks, which include R&D coalitions, franchising, co-production agreements, licensing, and joint ventures. Each involves different degrees of equity investment and interaction by partner firms, and represents rather different contexts in which knowledge transfer takes place. The development of these ties can impact the amount and value of the knowledge transferred based on the centrality and ease of exchange (Burt, 1992).

In our Special Issue, three of the studies use dyad relationships or alliances, and two studies use networks. Van Wijk et al. (2008) identify that there are significant differences between intra- and inter-organizational knowledge transfer regarding the number of relations and the centrality of the firm's position in the network, with both being more significant for inter-organizational knowledge transfer. Another type of structure mentioned by Mason and Leek (2008) is the creation of 'soft' transfer mechanisms, such as actors working together to develop a document with the expectation that the actors would learn from each other. They refer to this also as the development of an 'inter-firm community of practice', which sometimes must be engineered. They observe that the hierarchical structure of a firm affects the way initial inter-firm routines are set up and also influences where knowledge articulation and codification takes place. This latter point suggests a promising area for future research about the ways that different forms of hierarchical structures can affect knowledge transfer.

Do Cultural Differences Between the Source and Recipient Firms Become Barriers to Knowledge Transfer?

Strategically important knowledge is often embedded in the firm and supported by the corporate culture, but its meaning may be distorted and usefulness diminished when it is transferred to a different corporate culture. With the ongoing trend of globalization, national cultural differences constitute another complication. Van Wijk et al. (2008) find that cultural distance particularly hinders knowledge transfer in terms of intra-organizational knowledge transfer, and they recommend that more research is needed for assessing why it is less detrimental in inter-organizational knowledge transfer. But

Pérez-Nordtvedt et al. (2008) find no significant differences between their international sample in terms of intra- versus inter-organizational knowledge transfer. On the other hand, in the case study by Harryson et al. (2008) of the development of the Volvo C70, there are many examples of overcoming cultural differences between the Swedes, the Italians, and the Germans, including watching a soccer game together where the Germans lost to Italy. The point is that in the development of the Volvo C70, there were many activities aimed at getting the members to know each other better, to socialize, and to lower any cultural barriers that would hinder knowledge transfer.

As Van Wijk et al. (2008) suggest, there are relatively few studies that have looked at relationships between culture and knowledge transfer. This may be because cultural aspects are rarely 'visible' within the quantitative methods that have dominated in published studies, which suggests that if progress is to be made, issues of culture will best be investigated using qualitative methods and case studies.

How Does the Process of Knowledge Transfer Unfold at Different Levels of Analysis?

Inter-organizational knowledge transfer can be analysed not only at the firm level but also at other levels. For example, at the individual level, people are important repositories of organizational knowledge and agents of learning. They are able to transfer tacit as well as explicit knowledge and to adapt their knowledge to new contexts. How inter-personal interactions take place between the donor and the recipient firms thus affects the outcome of transfer. Nowadays many large firms, especially multinational corporations, enter into a variety of strategic alliances, which together form a network.

At the network level, the structural position of a firm relative to other network members, for instance, may affect its ability to acquire knowledge from the network. Harryson et al. (2008) offer a framework for knowledge transfer, suggesting that new innovations come from weak external networks and that these ties are best for exploration and creativity. After the new ideas are generated and transferred into the recipient firm, then intra-organizational knowledge transfer is necessary for exploitation and commercialization of the innovation. Sammarra and Biggiero (2008) describe the importance of geographical proximity and industrial clusters so that new ideas may emerge in local contexts which are made up of personal localized networks. They suggest that knowledge flows more effectively in territorial systems than in non-localized inter-firm networks.

These studies identify the importance and interaction between inter-organizational and intra-organizational knowledge transfer. With regard to future research directions, there is an argument which follows from Harryson et al. (2008) that we should not just be focusing on knowledge transfer, but also on the transformation and integration of knowledge into commercial innovation. Hence, we could be looking for a wider view of inter-organizational knowledge transfer.

In summary, the above research questions, together with the theoretical framework, indicate that the domain of inter-organizational knowledge transfer is complex. In spite of the considerable number of studies that have been conducted, including the ones included in this Special Issue, there are still many gaps in the literature. While these studies have improved our understanding, they also raise further questions.

PROMISING AREAS FOR FUTURE RESEARCH

In reviewing the major research questions above, we have identified a number of specific areas where future research would be valuable. In this section we identify two broader issues which have received little research attention, but have the potential of significantly enriching the literature of knowledge transfer: the role of boundaries and the relationship between inter- and intra-organizational learning. We touched upon these issues at the start of this article, and their significance has been reinforced by our review of the papers in the Special Issue.

The Role of Boundaries

Knowledge transfer involves moving pieces of knowledge from one party to another. The boundary that separates the parties often plays an important role as it can be a barrier or a facilitator to the transfer. The concept of organizational boundaries occupies a key position in early management literature (for example, Pfeffer and Salancik, 1978; Thompson, 1967), yet studies of knowledge transfer seldom explicitly take the nature of boundaries into consideration. Here we discuss three distinct types of boundary: organizational, national and industrial cluster boundaries.

Von Hippel (1994) used the term 'stickiness' to connote the difficulty of transferring knowledge between units within the boundary of an organization. Szulanski (1996) classified factors that contribute to stickiness into three groups, namely characteristics of the source of knowledge, characteristics of the recipient of knowledge, and characteristics of the context. As suggested by our framework discussed above, all of these factors are also relevant in the context of inter-organizational knowledge transfer. Some of them are even more crucial when knowledge is transferred between organizations. For example, Szulanski's (1996) survey found that an arduous (i.e. laborious and distant) relationship between the source and recipient of knowledge was one of the most important barriers to knowledge transfer. An arduous relationship is more likely to be present between two organizations than between two organizational units because unlike an inter-organizational relationship, units within an organization are usually more cooperative than competitive.

Although knowledge sharing among organizational units is usually encouraged in order to strengthen a firm's capabilities and innovative capacity (Gratton et al., 2007), firms are more wary of eroding their capabilities when engaging in joint activities with other firms. Norman's (2002) survey of US firms found that they were more protective when the capabilities they contributed to a strategic alliance were highly tacit and core, when their partner had a strong learning intent, and when the firm and its partner had highly similar resources. As expected, the further survey of US firms by Simonin (2004) found that partner protectiveness had a negative impact on knowledge transfer between international strategic alliance partners. In this Special Issue, the studies by Sammarra and Biggiero (2008) and Becerra et al. (2008) raise the concern about inadvertent leakage of critical knowledge and expertise in the process of inter-organizational knowledge transfer. Devices that are used to prevent knowledge leakage often also hinder knowledge transfer. Thus, the boundary between units within an organization is more permeable to the movement of knowledge than an organizational boundary.

Knowledge transfer across national boundaries, whether intra- or inter-organizational, can be even more complicated, because it involves different cultures which influence how people process, interpret, and make use of knowledge. Tsang (2001) studied how knowledge was transferred from foreign firms to their operations in China. He found that compared with the wholly owned subsidiaries in his sample, the presence of a Chinese partner in a joint venture generally increased the distance between expatriate and local managers. This distance was reflected in daily communications – the terms ‘the Chinese side’ (*zhongfang* in Chinese) and ‘the foreign side’ (*waifang*) were frequently used by both local and expatriate managers when they described the situations in the ventures. Moreover, cultural misunderstandings may hinder flows of knowledge. Lyles and Salk’s (1996) study of international joint ventures in Hungary found that cultural misunderstandings affected knowledge acquisition by local partners in the case of shared-management joint ventures. Similarly, Hong et al. (2006) found that cultural difference between Japanese companies and their subsidiaries in China became a major impediment for organizational learning. Harryson et al.’s (2008) study of the development of Volvo C70 illustrates the difficulties of transferring and creating knowledge within a geographically dispersed network that consists of members from different countries.

Within a national boundary, firms may operate in the proximity of other interconnected firms that together form an industrial cluster. Social networks which develop within a cluster facilitate transmission of knowledge. Using a social network analysis, Sammarra and Biggiero’s (2008) study indicates that firms in the aerospace industrial cluster of Rome exchange technological, market and managerial knowledge. Geographic proximity within an industrial cluster offers opportunities for exchanging and creating complex forms of knowledge among firms. The learning processes taking place in an industrial cluster result in cumulative local know-how that goes beyond the boundary of the firm, but remains within the spatial boundary of the cluster (Capello, 1999). Although firms in an industrial cluster may have distinct corporate cultures, they tend to share an industry recipe because firms in the same line of business experience substantial pressure to adopt similar policies (Hannan and Freeman, 1977). In other words, there may be idiosyncratic features of inter-organizational knowledge transfers within a cluster that are not shared by firms outside the cluster. Based on the results of their study, Sammarra and Biggiero (2008) venture to hypothesize that knowledge transfer patterns are different across industrial clusters. That is, the boundary of a cluster signifies the demarcation of a distinct pattern of inter-organizational transfer, with the implication that researchers may need to identify where the boundary lies and be cautious when generalizing research results beyond the boundary.

Empirical studies based on patent citation data indicate that knowledge moves more slowly across boundaries, whether national (Tallman and Phene, 2007) or regional (Almeida and Kogut, 1999), and knowledge spillovers tend to be localized within geographic boundaries (Jaffe et al., 1993). Other things being equal, the more boundaries that knowledge has to pass through, the more difficult the transfer process will be. With regard to the research agenda, we therefore believe it is important for studies to take explicit note of the location of different boundaries and to focus on mechanisms that are used to move knowledge through boundaries – rather than regarding boundaries merely as the dividing line between existing units and therefore of no particular theoretical interest.

The Relationship Between Inter- and Intra-Organizational Knowledge Transfer

As indicated at the start of this paper, there is growing evidence that inter- and intra-organizational knowledge transfer are distinct. For example, as Van Wijk et al.'s (2008) meta-analytic review indicates, national cultural differences are more pronounced when transferring within rather than between organizations; but power issues are more pronounced when considering inter-organizational knowledge transfer. In the context of strategic alliances, for example, Hamel (1991) argued that the most important determinant of partner bargaining power was the ability to learn. Firms can reduce dependence and increase bargaining power vis-à-vis their partners by quickly acquiring skills from the partners. When knowledge acquisition shifts the dependency relationship between partners, the cooperative basis for the alliance may erode, leading to instability and probably eventual termination of the alliance (Inkpen and Beamish, 1997). Fear of losing power motivates firms to protect against unintended transfer of knowledge to their partners. Similar dynamics involving knowledge flows between alliance partners and the shift of their relative power do not normally exist within the boundary of an organization. Finally, Holmqvist's (2003) study of a Scandinavian software producer indicates that intra-organizational learning processes generate more exploitative learning that creates reliability in experience, whereas inter-organizational learning processes generate more explorative learning that maintains variety in experience.

Although, as discussed, we believe that inter-organizational knowledge transfer would be more difficult than intra-organizational knowledge transfer, increasingly we can see how the two are potentially related. Most organizations contain internal boundaries which are both horizontal and hierarchical, and there is no commercial advantage to be gained if knowledge obtained externally fails to reach the appropriate decision making groups internally (Yanow, 2004). Hence, as Harryson et al. (2008) suggest, there needs to be movement from the exploration phase within open networks to the exploitation phase within closed networks; this is similar to the proposals within the absorptive capacity literature about the need to consider both potential and realized absorptive capacity. Without the appropriate integrative mechanisms, the knowledge obtained from the external environment will not be utilized (Zahra and George, 2002).

In this Special Issue, the meta-analytic review by Van Wijk et al. (2008) indicates that intra-organizational knowledge transfer contributes more to performance outcomes than inter-organizational knowledge transfer. They attribute this finding to the possibility that units within an organization are more likely to transfer knowledge that is relevant and to pursue exploitative innovations that generate short-term results. By contrast, exploratory innovations, the results of which are often uncertain, involve acquiring knowledge from other firms. The findings of Mason and Leek (2008) suggest that intra-organizational information flows are predominantly vertical, while inter-organizational information flows are predominantly horizontal. Moreover, the hierarchical structure of a firm seems to affect both intra- and inter-firm information flows.

The implications for the research agenda are that in order to obtain a more comprehensive view of knowledge transfer, studies need to consider both inter- and

intra-organizational learning at the same time, and also that there might be value in adopting some of the concepts from related fields such as absorptive capacity.

CONCLUSIONS

In this paper we have presented our initial framework guiding the Special Issue, and have summarized the contributions of the six papers in relation to seven main research questions involving inter-organizational knowledge transfer. We then identified two important issues which may help to shape the future research agenda in this field, namely the role of boundaries, and the relationship between inter- and intra-organizational knowledge transfer.

Last but not least, from looking at the two qualitative and four quantitative papers in this Special Issue, it is clear that the two types of research method yield different data and highlight different phenomena. The former tend to be better at describing how things change over time, and the latter provide better measures of what is happening at a single point of time. In some areas, such as when investigating the impact of firm characteristics or the tension between cooperation and competition, the quantitative papers have most to contribute; in other cases, such as when investigating the role of cultural differences or investigating the processes of knowledge transfer, the qualitative studies have more to offer. We therefore suggest that researchers need to seek ways of combining insights from both – where possible – and to be aware that the different foci of, and outcomes from, the two methods may pose particular problems for the coherence and evolution of the field.

ACKNOWLEDGMENTS

We are grateful to the Economic and Social Research Council's Advanced Institute of Management (AIM) Initiative for providing support for this paper, and the wider editing of the Special Issue on Inter-Organizational Knowledge Transfer, under Award No. 331-25-0018.

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