"The role of disseminative capacity in knowledge sharing: which model can be applied to SMEs?"

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SECTION 2. Management in firms and organizations

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The role of disseminative capacity in knowledge sharing: which model can be applied to SMEs?

Abstract

The development of organizational capacities is a source of competitive advantage, and particularly the sharing of the components of intra-organizational knowledge. By choosing a relational viewpoint, the authors find that an organization's ability to disseminate knowledge is closely linked to its ability to develop and activate networks for sharing and collaboration in addressing issues of change. By favoring the approach of Büchel and Raub (2002), emphasis is placed on the linkages between three of the components of networks for sharing and disseminating knowledge, namely issues, mechanisms, and relationships, but in the context of large-scale organizations. Can this model be applied to SMEs? Will we find the same components, combined in the same way? The authors show that not only the relational approach excellently fits for an SME, precisely because of the SME's organic nature, but that it offers a credible alternative to Büchel and Raub's model by suggesting a different distribution of the initial components.

Introduction

The development of organizational capacities represents a significant source of competitive advantage; such capacities notably include the sharing and integration of the various components of intra-organizational knowledge. This is due to the great difficulty of imitating such sharing and such combinations (Zander and Kogut, 1995; Grant, 1996). The sharing of knowledge across organizational, institutional, and social boundaries presents a challenge: that of changing the knowledge possessed by the actors involved in the transfer (Reagans and McEvily, 2003). Efficient knowledge-sharing requires a collaborative effort which depends not only on the beneficiaries of the absorptive capacity (Cohen and Levinthal, 1990), but also on the attitudes and behaviors of the knowledge providers. Sharing then depends on the ability of the source to transmit the knowledge in a manner that the receiver can understand. This ability of the source is associated with prior experience, and with its capacity for formulating knowledge in different ways and for different purposes (Reagans and McEvily, 2003).

Research on the transfer of knowledge has shown that the disseminative capacity of the transmitter of knowledge is one of the determinants of the transfer (Szulanski, 1996; Simonin, 1999; Gupta and Govindarajan, 2000). However, empirical studies have tended to focus on the behavior of the transmitters, while failing to offer an appropriate definition and a measurement standard for the concept of disseminative capacity.

Moreover, current research is attempting to identify the elements of a definition of disseminative capacity, and to show how, within large groups, the social network may or may not make it easier to disseminate the knowledge required for the adoption of a major change. The authors will attempt to show how the specific character of the SME, and in particular its organic nature, enables the emergence of original and innovative combinations of the components of Büchel and Raub's (2002) model: issues and interests, structures and mechanisms, and relationships of trust and reciprocity.

1. Disseminative capacity

Disseminative capacity is defined as the ability to contextualize, express in clear language, adapt, format, and distribute knowledge through a social and/or technologic network (Parent et al., 2007, p. 87). This ability is usually based on the existence of an organized social network (social capital includes both weak and strong linkages), and on knowledge managers and other intermediaries, including support for a social and technologic communications infrastructure. The disseminative capacity also expresses the organization's ability to command a high level of commitment from the interest groups involved (Ibid., 2007, p. 87). Minbaeva and Michailova (2004) supplement the above definition by including "ability" and "willingness" as characteristics that the actors and the organization must possess in order to disseminate knowledge.

Bapuij and Crossan (2005) describe disseminative capacity as an organization's ability to externalize organizational knowledge and to acquire more of it in a legitimate fashion.

Tang et al. (2010) define the disseminative capacity of "knowledge-sourcing experts" as the ability of

knowledge-holders to extract this knowledge in a manner that is effective, efficient, and convincing, so that other people can understand it correctly and put it into practice. They add that the disseminative capacity plays a cardinal role in the knowledge-transfer process (Mu et al., 2010).

Joshi, Sarker and Sarker (2007) emphasize the source of the capacity, and the credibility and scope of the communication, features which play an essential role in determining the extent of the knowledge to be transferred to the receivers. Gupta and Govindarajan (2000) introduced the concept of "knowledge flow", thus contributing to the description of Joshi et al.: "*knowledge flow is a function of the following five factors: value of the source unit's knowledge stock, motivational disposition of the source unit, existence and richness of transmission channels, motivational disposition of the target unit, and absorptive capacity of the target*" (p. 475). The source of the capacity, and its credibility, are thus considered to be vital characteristics of the knowledge-transfer process, and consequently of the disseminative capacity. Lastly, Oppat (2009) defines the disseminative capacity as the organization's ability to decontextualize and encode knowledge, but also as its ability to develop an appropriate method of communication.

2. A relational approach to assessing disseminative capacity

The viewpoints adopted by researchers regarding the value to be placed on the various processes, activities, and methods designed to support the knowledge-disseminating capacity are highly variable. Upholders of positivism (or of a content-based approach) postulate that knowledge should be conceived as an object, and that the new technologies of information and communication (NTICs) should therefore be seen as the most powerful and most effective means for disseminating knowledge. They envisage a universal truth which can be attained only after a systematic scientific investigation of our perception of reality; as an extension of the resource-based approach, the *Knowledge-Based View* essentially takes a positivist approach to knowledge, but offers a far too reductive and objectivist vision of this knowledge. Thus knowledge-sharing and collaboration would aim to reach a consensus, seeking to arrive at a single truth in which rich social relationships would no longer be meaningful.

Supporters of social constructivism (or of a relational approach) raise questions about this content-based view of knowledge. They see knowledge as relative, fleeting, and intimately connected to its context. For constructivists, knowledge is a process which enables

reality to be understood, and also the capacity for acting upon it (Brown and Duguid, 1998; Schultze, 2000). This point of view implies that knowledge alone cannot suffice, and that it needs what Blumentritt et al. (1999) call intelligent systems. For constructivists, NTICs, as the principal mechanism for distributing knowledge, cannot transmit knowledge all by themselves. When these new technologies are properly adjusted to the needs and characteristics of their users, they represent an excellent means of distributing relevant information. However, this information must be the object of appropriation or reappropriation by the actors, in their specific contexts, before this information can be transformed into knowledge. For this transformation to take place, it is necessary to consider not only the essential contributions of the actors involved, but also their interactions.

These interactions allow them to make sense of the information (Du Toit, 2003) and to derive knowledge from it which is then incorporated into their experience and practices. Under the relational approach, social networks represent the underpinning which must be analyzed and understood: they support and make possible the disseminative capacity, as part of the transfer system. This means that the actors and groups of actors involved in the issues of transport must take part either directly or indirectly in these social networks, or in communities of practice, strategic communities, or other kinds of social organizations, which make this knowledge and its circulation possible (Brown and Duguid, 1998; Papargyris and Poulymenakou, 2003; Storck and Hill, 2000). In this case the dissemination processes are combined with the processes of socialization, participation, the collective resolution of problems, and collaboration to address common issues and interests (Ward, 2000; Wenger, 2000). In order to establish participatory and collaborative practices for the dissemination of knowledge, it is necessary to provide and promote the emergence and development of networks for collaboration and sharing, and to put in place a whole set of mechanisms, interventions, and activities, both formal and informal, within the transfer system.

The disseminative capacity thus relies on different processes depending on the approach selected: infrastructure and technological processes for believers in a content-based approach, and sociocultural and technological processes interlinked with social networks for partisans of a relational approach. Certain features of the two approaches can be compared as regards disseminative capacity, as follows.

Table 1. Comparison of the features associated with disseminative capacity, by approach adopted

Content approach	Relational approach
Technologic processes Communication process of type: Transmitter → Receiver (Subject) → (Target-Object)/(Target-Audience)	Sociocultural and technologic processes Communication process of type: Actor → Actor (Subject) → (Subject)
Mechanistic view of communication as a technologic or instrumental design-communication is the transmission of standardized contents, and interactions between actors are limited.	Communication as a process of interaction that embodies signification – knowledge is co-constructed by the actors involved in the issues and needs of knowledge.
Relationship of distance between the transmitter and the receiver, and situation of low-complexity exchanges.	Relationship of strong interdependence between the actors, and situation of high complexity (multiple points of view, experiences, and practices)
Importance assigned to clarity of language (clear, precise, unequivocal) and/or to the "scientific" quality of the content.	Importance assigned to a shared understanding of the issues, the needs for knowledge, and the components of solutions.
Contents formatted to the needs and characteristics of the clienteles (target audiences), and selection of means of distribution appropriate to them.	Contents formatted to the needs and characteristics of the clienteles, and selection of processes of exchange, sharing, and collaboration appropriate to the context and the nature of the knowledge to be transferred.
Impact on "target audiences" defined in terms of strategic objectives and transmission of approved contents and knowledge.	Mobilization and sharing of knowledge (experiences, ideas, descriptions, etc.) bringing together the actors and groups of actors involved in the issues and solutions.
Reappropriation of approved contents and knowledge.	Reappropriation/co-construction of knowledge according to the specific contexts.

Source: Compiled by the authors.

Notes: The specific features and processes as well as the conditions or prerequisites for the installation of the disseminative capacity within the transfer system, which are described below, allow for these different approaches while at the same time favoring the relational approach and social networks.

3. Networks for the sharing and dissemination of knowledge

In the relational approach, the disseminative capacity is closely linked to the ability to develop and activate networks for sharing, exchanging, and collaborating, and the collective resolution of problems regarding common issues.
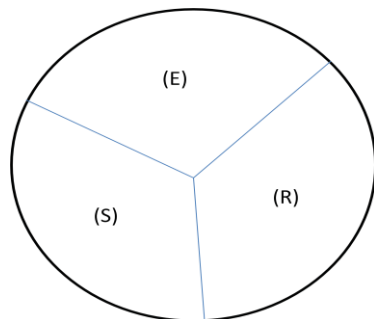
For a knowledge-transfer network to exist there must be a structure (Arbonies and Moso, 2002; Santoro and Gopalakrishnan, 2000), relationships (Autio, Hameri, and Vuola, 2004), and common issues and interests (Büchel and Raub, 2002). The three main parameters of the vitality of a network for sharing and disseminating knowledge can be illustrated as follows.

(E): Need for knowledge regarding shared issues and interests or strategic objectives

(R): Relationships of trust, reciprocity, and collaboration

(S): Structure and mechanisms for sharing between actors and groups of actors

Fig. 1. Components of networks for sharing and disseminating knowledge, after Buchel and Raub (2002)

The development of knowledge-transfer networks involves the successive stimulation of these three components. The process may be initiated by one of the components in a network and then be extended to the others. For example, the development of collaborative relationships between actors sharing the same passion or the same type of activity can lead to the emergence of a more or less formal structure for sharing knowledge regarding needs or shared concerns, following the example of communities of practice (Brown and Duguid, 1991, 1999, 2001; Wenger and Snyder, 2000; Lave and Wenger, 1991). An organization may decide on a certain number of strategic objectives, and then build a sharing structure and culture designed to promote the development of interpersonal relationships based on trust and reciprocity (Buckman, 1998; Rumizen, 1998). There would then be no single point of emergence of a network, although in our opinion the three components are indispensable to its formation.

Social capital may be a very useful concept for examining the vitality of a network, taking as a starting point the dynamism of the actors or groups of actors who seek to optimize their networks in order to answer their needs for knowledge (McElroy, 2002; Landry, Amara and Lamari, 2001; Gabbay and Zuckerman, 1998; Inkpen and Tsang, 2005; Widén-Wulff and Ginman, 2004; Yli-Renko, Autio, and Tontti, 2001; Tsai and Ghoshal, 1998).

Social capital as defined by Nahapiet and Ghoshal (1998) and adopted by other authors (Inkpen and

Tsang, 2005; Widén-Wulff and Ginman, 2004; Yli-Renko, Autio and Tontti, 2001; Tsai and Ghoshal, 1998) also comprises three dimensions (structural, relational, and cognitive). These three dimensions match the essential components of the proposed model for analyzing social networks (Figure 1), the cognitive dimension being based on the issues, topics, and themes to be shared, which constitute the subject of the exchanges.

3.1. An application of the network's components. Büchel and Raub (2002) propose a process for developing a knowledge network, in four sta-

ges. The actions suggested for establishing the network illustrate the three major components of the model: common issues or interests (E), the structure and mechanisms of sharing (S), and relationships (R) (Büchel and Raub, 2002, p. 591). The process of Büchel and Raub (2002) applies when the start-up or take-off of the network arises from management's expressing a desire to create a knowledge network. The cases studied by the authors are taken from large multinational firms such as Daimler-Chrysler, Motorola, Siemens, and Xerox, companies which orient their knowledge-sharing efforts towards certain major strategic objectives.

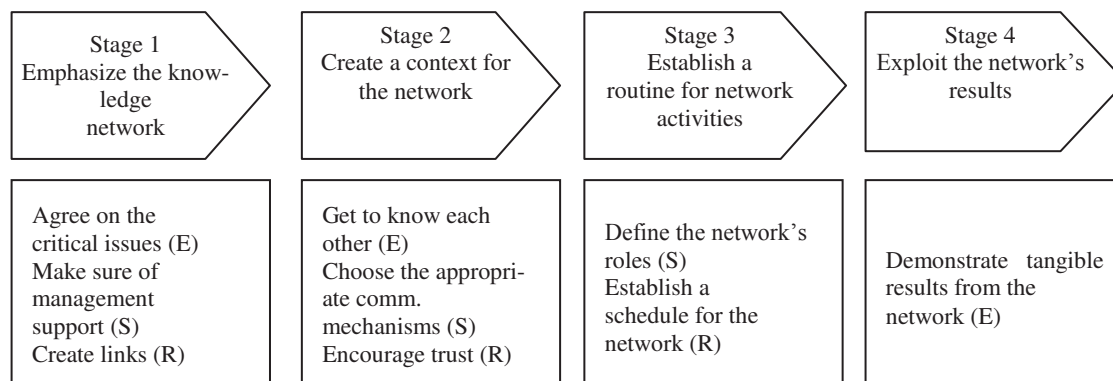| Stage 1 Emphasize the knowledge network	Stage 2 Create a context for the network	Stage 3 Establish a routine for network activities	Stage 4 Exploit the network's results
Agree on the critical issues (E) Make sure of management support (S) Create links (R)	Get to know each other (E) Choose the appropriate comm. mechanisms (S) Encourage trust (R)	Define the network's roles (S) Establish a schedule for the network (R)	Demonstrate tangible results from the network (E)

Fig. 2. The four stages of network development, after Büchel and Raub (2002)

In cases where networks emerge, the initiative may be the result of common needs or issues (E) shared by a group of practitioners (technicians, operators, professionals, administrators, etc.) (Brown and Duguid, 1998; Boland and Tenkasi, 1995; McDermott, 1999, Wenger and Snyder, 2000), or from certain actors whose social capital is particularly high (R) (Autio and Tontti, 2001; Tsai and Ghoshal, 1998), or from the creation of real or virtual spaces for collaboration (S) which encourage the discovery of common interests and the possibility of organizing more or less spontaneous exchanges between actors (Earl, 2001). It could also come from a combination of two or three of these components. Thus the contexts in which networks emerge are seen to be variable, although they can be analyzed in terms of the same model.

3.2. Analysis of the network's components. The vitality of a transfer network may be analyzed by examining its various components and considering various aspects such as (1) the relative importance of the issues and the needs for knowledge, (2) the appropriateness of the structure and the sharing mechanisms to the context and to the knowledge to be transferred, and (3) the solidity, intensity, quality, and duration of the relationships between the partners (actors and groups of actors).

Storck and Hill (2000) emphasize that in order to mobilize people around common issues and encourage them to share their knowledge, it is important to

respond to their needs. Although the issues may be dictated by the company's management, the establishment of the network must make room for the needs of its members if it obtains their real involvement.

The structure and mechanisms of knowledge-sharing may comprise both formal and informal aspects. Some methods of organizing exchanges seem to be better suited than others to create motivation (Kodama, 2002, 2005; Storck and Hill, 2000; Büchel et al., 2002). According to the study conducted by Storck and Hill (2000) at Xerox, patterns of organization of the strategic-community type seem to represent a model that is better suited to the dissemination of knowledge than more traditional, formal organizational models.

The connections between the actors and groups of actors may be strong or weak, and may or may not exhibit reciprocity, trust, and duration. According to various studies (Hansen, 1999; Hansen, Podolny, and Pfeffer, 2001; Hansen, 2002; Kramer and Wells, 2005; Augier and Vendelo, 1999; Walker, Kogut, and Shan, 1997; Tsai, 2001, Tsai and Ghoshal, 1998; Brown and Duguid, 2002; Kotabe, Martin, and Domoto, 2003; Lynskey, 1999), for a successful transfer of knowledge that is tacit, complex, and deeply-rooted in the practices and culture of its environment, social networks that are dense and have frequent, intimate relationships based on trust and reciprocity are far better than networks based primarily on NTICs.

There are many kinds of situations and networks. The nature and characteristics of a good network depend on a great number of variables (the kind of knowledge to be transferred, the relative importance of the issues, the resources available, and the maturity of the relationships). In addition, for a network to be dynamic it needs to be supported by certain key roles such as experienced knowledge brokers, leaders, and "champions" capable of mobilizing the network's actors (Kodama, 2002, 2005; Hinloopen, 2004; Kramer, Cole, and Leithwood, 2004; Jones, Hershel and Moesel, 2003).

3.3. Processes, activities and resources associated with disseminative capacity. Researchers and practitioners occasionally include mechanisms (or technological resources) in social processes (Büchel and Raub, 2002; Buckman, 1998; Corso, Martini, Pelligrini, and Paolucci, 2003; Khandelwal and Gottschalk, 2003; Kock and Davison, 2003). They maintain that collaborative technologies (NTICs), when combined with the appropriate social processes, can encourage and support the sharing of knowledge (Rumizen, 1998). Other means that may be envisaged include the development of new skills among administrators, mentoring programs (Dayasindhu, 2002), and establishing facilitation processes or a facilitator position (Roth, 2003).

The variables to be considered when promoting the development of a disseminative capacity sufficient for the transfer of knowledge within the system are many, and may be hard to weigh against each other. Depending on the existing networks, the weighting will vary according to: the similarity or difference of the cultures involved (Darr and Kurtzberg, 2000; Siegel, Waldman, Atwater, Leanne, and Link, 2003, 2004), the greater or lesser density of these cultures (Hansen, 1999; Hansen et al., 2001; Hansen, 2002; Kotabe et al., 2003; Lynskey, 1999), the type of issues and the nature of the knowledge to be disseminated (simple or complex), the presence or absence of leaders and knowledge brokers (Kodama, 2002, 2005; Hinloopen, 2004; Kramer et al., 2004; Jones et al., 2003) and other relevant people (Rogers, Takegami, and Yin, 2001), the extent of the resources available, etc. Moreover, disseminative capacity depends on a whole range of specific skills such as the development of alliances (Powell, 1998), forming actors and groups of actors into a network (Kodama, 2002, 2005), and consolidating networks.

4. Disseminative capacity and sharing networks in SMEs

SMEs have been the subject of extensive research over the last twenty years. They constitute the overwhelming majority of firms in every country of the world: more than 99% of companies and nearly 63%

of all jobs in 2005[1] (if we apply the European definition of SME). Büchel and Raub (2002) conducted their study for the Geneva Knowledge Forum, a group that brings together multinational firms (GEMs) who are leaders in their sectors (Daimler, Deutsche Bank, Xerox, Siemens, Novartis, Motorola, etc.). Whether their model can be transferred and applied to SMEs remains an open question.

During the 1970s the Bolton Report (1971) identified some of the distinctive features of SMEs in Great Britain. Based on this work, Wtterwulghe (1998) identified three criteria for identifying an SME:

♦ It is a firm managed by its owners in a personal manner, and characterized by a flat hierarchy.
♦ Its market share is relatively limited.
♦ The firm is independent (financially and socially).

This constituent-based approach to defining an SME would be expanded by studies of a qualitative and quantitative nature. Thus among the main criteria employed, size appears to be the most obvious, but also the most complex. Although the size effect allows SMEs to be separated into various groups, a difficulty arises when determining the limits for distinguishing "big" SMEs from large companies. In spite of this difficulty, size remains the criterion that is most often applied. Other quantitative criteria are also employed, for example, workforce or sales. These are all easily-available figures. For this reason the European Union has established a multi-criteria approach, recommending that its Member States should characterize SMEs as firms that:

♦ Employ fewer than 250 persons.
♦ Have sales of less than €40 M.
♦ Meet a criterion of independence (less than 25% of capital or voting rights held by a major company).

Qualitative approaches focus on the human aspect of the firm. For example, the omnipresent head of the firm has a role that is regarded as decisive (Julien and Marchesnay, 1987). Other criteria have been adopted to identify more descriptive characteristics:

♦ Relatively non-specialized management personnel.
♦ Close personal contacts between the management and the various stakeholders.
♦ A weak ability to bargain with the economic environment.
♦ A more or less strong dependence on its markets and sources of supply.
♦ Frequent use of self-financing.

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[1] *Regards sur les PME*, Number 8, September 2005, GIE OSEO Services, ISSN 1761-1741.

♦ A more intuitive and less formalized strategy, insofar as the director is close enough to his/her colleagues to explain any change in direction to them, without having to draw up excessively detailed action plans.

♦ A simple information system characterized by rapid distribution, in which dialogue and direct understanding dominate over textual aspects.

♦ A compact decision loop amplified by the informal nature of the internal information system.

♦ A simple external information system based on the proximity of the firm to its market and the flexibility of its organization.

Many such qualitative approaches have been applied, and they agree in emphasizing the personalized management style of SMEs: in particular the dominant role of the head of the firm who, as the principal actor, leaves his/her mark on the firm's behavior and its development.

Numerous authors assert that one may liken the SME to the actual head of the firm, so much do the various aspects of the firm's everyday management express his/her personality, to the extent that an SME might be described as an "ego-firm" (Torrès and Plane, 1998).

The leader's agenda (Zaleznik et al., 1965; Mintzberg, 1990) shows that his/her activity is mainly characterized by:

♦ A steady working rhythm, with short, varied, fragmented activities.

♦ A pronounced taste for action.

♦ Frequent use of oral communications.

♦ The development and management of internal and external networks.

♦ The management of a blend of rights and duties,

♦ A frequent role as initiator.

♦ A situation of variable solitude, depending on the firm's stage of development and the nature of the decisions to be made.

SMEs are characterized by the primary role of their leaders, who are at once entrepreneurs, managers, organizers, and administrators (Marchesnay, 1992). The firm's goals are often merged with those of its head (Julien and Marchesnay, 1987). Marchesnay (1998) distinguishes two kinds of company managers in SMEs, associated with different kinds of decisions and philosophies of action.

♦ The PIC director (*Pérennité, Indépendance, Croissance*, or Growth, Continuity, Independence), driven by a proprietary philosophy. The decision-making process is adaptive.

♦ The CAP director (*Croissance, Autonomie,*

Pérennité, or Growth, Autonomy, Continuity) driven by the growth of its capital. The decision-making process remains opportunistic.

According to Torres (1999) "the strong centralization of its management procedures and its short hierarchic chain confer on the SME a character of hierarchic proximity". The heads of SMEs are physically very close to their employees, both in functional and relational terms. In an SME the interactions (head − employees, and employees − internal & external employees of the firm) are highly interdependent.

In an SME, human relationships are also expressed in terms of affectivity (Pagès, 1984). Although "the relationships which exist between the head of the firm and his/her employees are very similar to those that exist between the members of a family" (Gasse and Carrier, 1992), within an SME a special climate is created which can be as much a source of strength as of weakness. An appropriate management of this affectivity can strengthen the employees' involvement. Other research shows that such involvement will be further strengthened by the employees' confidence in their management (Cook and Wall, 1980; De Cotiis and Summers, 1987; Brockner, Siegel, Daly, Tyler, and Martin, 1997).

According to Thévenet (1992) "employees become more involved when they feel that the organization is concerned about their personal situations". Kundi and Saleh (1993) explain this claim by pointing out that having confidence in one's management reduces one's feeling of insecurity and produces a feeling that the organization and the employee have common interests. This trust in the positive intentions of management induces a feeling of reciprocity. Gouldner (1960): the organization feels concerned about my interests, so in return I should worry about theirs (Gaertner and Nollen, 1989; Kundi and Saleh, 1993, cited by P. Couteret, 1998).

These links between trust and involvement find particularly fertile ground for their development in SMEs. In a small firm, trust is especially influenced by the actions of its head.

Discussion and conclusion

Analysis of the differences identified between SMEs and big enterprises (BE) on which Buchel and Raub (2002) conducted their study shows significant contrasts. The stages of development of the network are much less favorably positioned in an SME than in a BE. The items concerned comprise stages 1, 2, 5, 8, and 9. With rare exceptions, SMEs manage operations which have deadlines that are often short, resulting in choices between long-term and short-term actions in which instant choices are favored (Items 1 and 2).

Table 2. Positioning of an SME as compared to a BE (big enterprise), according to the stage of development of the network

Stages, after Buchel and Raub (2002)*	Characteristics in SMEs	Positioning: SME vs BE
1. Agree on the critical issues (E)	Short-term vs. long-term considerations favor the short term and create dispersion, which works against concentration on the core business	− SME _____ BE +
2. Make sure of management support (S)		
3. Create links (R)	All of the firm's actors are stakeholders in the network regarding critical issues	− BE _____ SME +
4. Get to know each other (E)	Little variety of contexts hence easier sharing + transmiter/ receiver proximity	− BE _____ SME +
5. Select the appropriate comm. mechanisms (S)	Forms of communication limited to oral expression and traditional electronic tools (e-mail, intranet, etc.)	− SME _____ BE +
6. Encourage trust (R)	More trust (fewer contracts) and transfer of tacit knowledge facilitated	− BE _____ SME +
7. Define the network's roles (S)	Network organized around the firm's head, who at minimum combines the roles of coordinator and sponsor	− SME/BE _____ +
8. Establish a schedule for the network (R)	Great variability, depending on the personality of the head of the firm	− SME _____ BE +
9. Demonstrate tangible results from the network (E)	Little possibility of transferring results from the network because of the narrow range of contexts in an SME	− SME _____ BE +

Note: * The indices identifying the stages are shown in Appendix.

The structure of an SME is based on oral communication and on mutual adjustments which are more numerous than in a BE. Formalism and communication mechanisms are therefore less developed (Item 5). The rhythm given to the network is closely linked to the personality of the head of the firm, and heterogeneity of situations is the dominant mode in an SME (Items 7 and 8). Lastly, the transfer of results is much more selective than in a big firm, in as much as an SME's area of action is in most cases focused on a single activity area, the constraint on resources being the strongest factor (Item 9).

On the other hand, some stages in the development of a network offer more favorable positionings to an SME than to a BE. In fact, owing to the organic nature of the SME and the particular character of its management, Items 3, 4, and 6 enable – and to some extent require – the stakeholders to engage in both continuous and instant exchanges that encourage the creation of links and the sharing of knowledge. This knowledge, often tacit in nature, is continuously shared (Items 3 and 4). The same applies to trust, facilitating the transfer of knowledge; in SMEs trust is greater because of the proximity of management. In an SME, although trust and contracts both exist, the low level of formalization leaves a wider area for trust. The result is an imbalance in the triptyque defined by Buchel and Raub (2002) to illustrate the components of networks for sharing and disseminating knowledge (see Figure 3 below). The components of the network in an SME show that a major share is allocated to "relationships of trust, reciprocity, and collaboration". Although this result may seem to be "almost obvious" because of the organic nature of the SME, it should not conceal the heterogeneity of the SME environment, nor the issue of the quality of small networks.
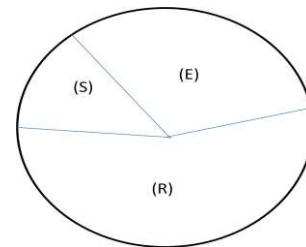

Fig. 3. Components of networks for sharing and disseminating knowledge in an SME

Although the development of knowledge-transfer networks involves the successive stimulation of these three components, in the world of the SME the process is initiated mainly by the (R) component, and then extends to the others. Moreover, the development of collaborative relationships, which are often one-to-one in an SME, occurs between actors who share the same type of activity and create a more or less formal knowledge-sharing structure around common goals. The structure and culture of sharing is thus promoted by existing interpersonal relationships, which represents a reversal of the proposition of Buchel and Raub (2002). The network very often emerges from a single point only: the head of the firm, although all three components are essential for the constitution of the network. In an SME, establishing a disseminative capacity that will efficiently support the knowledge to be transferred requires a consideration of the general and specific context of the firm, and also of the management provided by its head. The knowledge to be transferred is experiential, tacit, and complex in nature, and deeply rooted in its context. There is much room for research aimed at characterizing the dissemination of knowledge in small and medium enterprises, and the stages of construction of their knowledge networks.

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Appendix

Table 1. The stages of network development: Büchel and Raub (2002)

Stages	Definitions, from Buchel and Raub (2002)
Agree on the critical issues (E)	…to make sure that knowledge networks form around topics that are at the heart of the business
Make sure of management support (S)	…a direct link between the focus of a network and its ability to obtain management support
Create links (R)	when links between its potential members are established around a burning issue
Get to know each other (E)	…for a nascent network to understand the variety of contexts in which the different organizational members are working
Choose the appropriate comm. mechanisms (S)	… choosing between alternative forms of communication is key throughout the life of a network
Encourage trust (R)	In order to overcome the hoarding of information, trust is necessary to pass on tacit knowledge from one network member to another
Define the network's roles (S)	4 roles: coordinator is assisted by a support structure, editor, sponsor
Establish a schedule for the network (R)	A temporal rhythm imposed on the network can generate a much-needed element of stability and bring some routine into network activities
Demonstrate tangible results from the network (E)	To be able to transfer the results of a network, it needs to show that its' outcomes serve the organization