

The Role of Social Interaction in Cross-Border Tacit Knowledge Transfer: An Integrative Model

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Abstract:

Knowledge is widely recognized as one of the key resources contributing to the firm's competitive advantage. Therefore, within organizations, knowledge is created, developed and transferred across units in both explicit and tacit forms. The transfer of tacit forms of knowledge is difficult to capture and is mostly associated with a variety of human interactions taking place along a period of time, often referred to as social interactions. However, while most existing literature automatically associates social interaction with specific means used to achieve it, the current paper argues that social interaction should be recognized as a process which exists at an aggregated level representing the use of various means and requiring an active involvement in order to carry influence and be effective. Such influence is captured in terms of reducing the power of inhibitors to knowledge transfer and in enhancing the power of knowledge transfer facilitators. A framework describing these processes is conceptualized and related propositions are outlined.

Key words: knowledge; knowledge transfer; social interaction; tacit knowledge; facilitators; inhibitors; trust; values; culture; stickiness; MNCs.

Introduction

Knowledge is well recognized as one of the most important sources for an organization's competitive advantage (Shan & Harry, 1998), and its ability to exploit knowledge, through active process management, represents a source of sustainable competitive advantage (Gupta & Govindarajan, 2000). These processes refer to what are defined as the firm's core competencies (1997, Prahalad & Hamel, 1990) and capabilities (Kogut & Zander, 1992), all of which suggesting an underlying learning process where knowledge is created and transferred efficiently within organizational contexts.

Knowledge may be either of explicit or tacit nature (Nonaka, 1994). While explicit knowledge is easy to express both verbally and in written form, possible to codify, and therefore also easy to transfer; tacit knowledge is complex and hard to codify, express or share, and is transferred through personal interactions and rich social interplay (Bresman, Birkinshaw, & Nobel, 1999). Consequently, the investigation of tacit knowledge and its transfer mechanisms is critical for understanding opportunities to create sustainable competitive advantage.

As part of a constantly growing body of literature on knowledge transfer and related mechanisms (Agarwal, Echambadi, Franco, & Sarkar, 2004, Björkman, Barner-Rasmussen, & Li, 2004, Buckley & Carter, 1999, Foss & Pedersen, 2002, Inkpen & Tsang, 2005, Kotabe, Dunlap-Hinkler, Parente, & Mishra, 2007, Minbaeva, 2007, Szulanski, 2000), various authors have directly and indirectly tried to identify those mechanisms uniquely associated with tacit knowledge transfer (Dhanaraj, Lyles, Steensma, & Tihanyi, 2004, Levin & Cross, 2004, Miller, Meng, & Calantone, 2006). These studies have identified a variety of social arrangements that are described as operating within social communities (Bresman, Birkinshaw, & Nobel, 1999, Kogut & Zander, 2003, Teigland, 2003) or clans (Ouchi, 1980,

Sohn, 1994), highlighting the complex dynamics of social interaction between individuals within organizational contexts as a prominent vehicle for tacit knowledge transfer.

This paper aims to identify the role of social interaction in knowledge transfer within MNCs, and to suggest a conceptual framework for analyzing its influences. In this sense, it strives to consolidate the rich knowledge available in the existing literature into a coherent integrative model with social interaction at its core. Moreover, it enhances the understanding of the social interaction concept, while differentiating between three of its key dimensions - means, processes and impacts. The contribution of the paper is to add structure, terminology, and coherence to the literature, and highlight potential relations between sub-components in a way which both extends and simplifies earlier studies' findings.

First, we focus on tacit knowledge and acknowledge the challenges associated with it. Then, a brief overview of the existing literature on knowledge transfer mechanisms in an MNC setting is presented. This is followed by the identification of inhibitors and facilitators of knowledge transfer as they emerge from earlier studies. Then a critical review of existing conceptualizations of the social dimension of knowledge transfer is outlined, while being followed by suggestions for a new approach focusing on social interaction as the key construct. Such an approach rejects traditional one-dimensional interpretations of social interaction and highlights the three dimensions of the concept, including - means, process and impact. This is further conceptualized into a model and a list of related propositions is suggested. Initial conclusions are drawn and future research venues are outlined.

The Challenges of Tacit Knowledge Transfer

The definitions of knowledge have intrigued some of the world's greatest thinkers from Plato to Popper without the emergence of a clear consensus. 'That which I know' is used as definition in the paper by Grant (1996). Machlup (1980) identifies 13 different 'elements of

knowing’ including: being acquainted with, being familiar with, being aware of, remembering, recollecting, recognizing, distinguishing, understanding, interpreting, being able to explain, being able to demonstrate, being able to talk about, and being able to perform. He also identifies five classes of knowledge including: practical knowledge, intellectual knowledge, pastime knowledge, spiritual knowledge, and unwanted knowledge.

While there are different types of knowledge to be transferred within organizations, the literature recognizes the great challenges associated with the transfer of the most intricate type of knowledge – the tacit knowledge. Early on, when looking at human knowledge, Polyani (1962, 1966) indicated that “we can know more than we can tell” (1966:16); hence, indicating that some knowledge may be tacit in the sense that it is hard to express and share with others. Tacit knowledge is rooted in action, commitment, and involvement in a specific context, and it requires personal interaction and a rich social interplay (Bresman, Birkinshaw, & Nobel, 1999).

Furthermore, tacit knowledge is closely related to skills, and is gained through practical experience in various contexts (Nelson & Winter, 1982). Wagner (1987) defined tacit knowledge as practical know how that usually is not openly expressed or stated and which must be acquired in the absence of direct instruction. Gupta and Govindarajan (2000) while studying the transfer of *procedural knowledge*, which includes both tacit and declarative knowledge, found that it actually tends to be more tacit than declarative since procedural knowledge exists through know how rather than operational information. Further expanding the concept, Kogut and Zander (1992) incorporated both the relative tacit ‘know-how’, defined as the accumulated practical skill or expertise that allows one to do something smoothly and efficiently, and information or ‘know-what’, which accommodates more articulable dimensions of knowledge.

Following Polanyi's work, Nonaka (1994) argues that it is possible to expand earlier ideas in a more practical direction, while suggesting that "tacit knowledge involves both cognitive and technical elements" (Nonaka, 1994:16). He describes how tacit knowledge can be created and distributed through shared experiences between individuals. And, therefore, while individuals may build their own perspectives of the world through an interaction between experiential knowledge and rationality, these perspectives need to be articulated and amplified through social interaction in order to make sense to others.

In summary, while explicit knowledge is easy to communicate, express and articulate in written documents, which may then be easily transferred between units, tacit knowledge is the silent kind of knowledge which is not easy to communicate and requires hands-on experience to be understood and learned. Since tacit knowledge is difficult to replicate, companies who manage to develop it may achieve a favorable competitive position versus competitors. This makes the tacit kind of knowledge particularly interesting for analysis, and especially with respect to its related transfer mechanisms and their effectiveness. For the purpose of this paper, we adopt a definition which is in line with Gupta and Govindarajan's approach, hence, defining tacit knowledge as *knowledge that is hard to articulate and explain to others, and which is gained through practical experience and social interaction*.

Once recognizing the unique attributes of tacit knowledge and the challenges they create for organizations in disseminating it within and across units, one should also understand what is known about knowledge transfer mechanisms. Such mechanism may be of general nature or specifically employed for overcoming the tacit knowledge transfer challenges. In the next section we identify such mechanisms as they arise from growing body of literature on knowledge transfer in organizations.

Knowledge Transfer Mechanisms

In the last few decades an increasing number of scholars, leaning on organizational learning theory, have been studying the importance and ability to both receive (Cohen & Levinthal, 1990, Lane, Salk, & Lyles, 2001, Lane & Lubatkin, 1998) and share (Cabrera & Cabrera, 2005, Martin & Salomon, 2003, Simonin, 2004) knowledge within an organizational context in general, and within multinational companies (MNCs) in particular.

Focusing on the MNCs internal ability to transfer knowledge, researchers have identified several knowledge transfer mechanisms. One such model was suggested by Buckley and Carter (1999), who identified three broad forms of knowledge transfer – personal communication, codified communication and embodied transfer. Personal communication refers to actions such as talking, meeting, e-mail correspondence, etc. Codified communication includes documentation forms such as reports and drawings. And finally, the embodied transfer, which relates to complex forms of knowledge carriers, such as products or equipment. Since different kinds of knowledge flows must take place at the same time, firms are likely to use multiple methods simultaneously, in accordance with the levels to which the knowledge may be codified, the extent to which it is detailed, and whether there is shared knowledge among individuals taking part in the exchange.

Studying knowledge transfer in the context of international acquisitions, Bresman et al. (1999) found that interaction through visits and meetings between acquirer and acquired units emerges as the most important determinant for successful knowledge transfer. They have also suggested that characteristics of knowledge influences the way it is transferred. Technology know-how is transferred through communication, visits and meetings, and is influenced by the time elapsed since acquisition. The transfer of patents is associated with the articulability of the knowledge, the size of the acquired unit, and the recency of the acquisition. Therefore,

one may conclude that personal interaction is less important for transferring patent related knowledge but has great importance for the transfer of know how.

Critical to effective and efficient communication between units is the use of a commonly understood language (Marschan-Piekkari, Welch, & Welch, 1999, Marschan-Piekkari, Welch, & Welch, 1999, Piekkari, Vaara, Tienari, & SÃ¤rntti, 2005). However, when only a certain part of the employees command the corporate language it may create 'in-groups' and 'out-groups' within the organization. Employees that master the company language may benefit from becoming language nodes or junctions, allowing them better access to critical information as well as possibilities for getting positions and promotions at headquarters. However, becoming the contact of choice, when headquarters wants something done or translated at the subsidiary level, may also result in a workload that can be somewhat overwhelming. Employees, who do not understand the corporate language, may not obtain the same benefits and opportunities and in order to develop a shared organizational identity, a common language is necessary.

At the individual level, one of the most frequently mentioned knowledge transfer mechanisms are the expatriates (Beaverstock, 2004, Bonache & Brewster, 2001, Downes & Thomas, 2000, Minbaeva & Michailova, 2004), with reference to their activities and roles during and after the expatriation mission. Interestingly, within the context of knowledge transfer, Beaverstock (2004) found that expatriation practices followed different patterns in East Asia, on the one side, and in Europe and North America on the other. This study revealed that expatriation in the former followed a multinational approach, characterized by one-way knowledge diffusion. However, expatriation in the latter reflected a transnational approach, where knowledge was developed and diffused in a network of relationships, where expatriates worked with locally qualified employees as well as with other expatriates of different nationalities. And,

therefore, in this case, expatriation became a process of creating 'transnational communities' within the firm, characterized by more complex forms of network-based knowledge diffusion. At the organizational level, different studies have identified specific units and groups which play unique knowledge transfer roles. In this context, Moore and Birkinshaw (1998) have identified Centers of Excellence, as one type of such units, defined as “a small group of individuals recognized for their leading-edge, strategically-valuable knowledge, and mandated to leverage and/or make that knowledge available throughout the global firm” (p. 81). A centre of excellence is not necessarily fixed in a single geographic location, but can be consisting of individuals living in multiple locations but meeting together for projects where their leading-edge knowledge in certain areas may be critical, and hence creating a platform for its transfer to other units and individuals. Such centers were established in areas that were regarded by top management as strategically valuable, with the aim of leveraging existing knowledge and making it available throughout the firm.

Finally, an additional knowledge transfer mechanism, which may be found in the organizational structure, is communities of practice (Buckley & Carter, 2004, Lave & Wenger, 1991), used as means of improving absorptive capacity at the group level. Building on the notion that groups of individuals having similar motivations and goals tend to reduce the barriers to knowledge absorption, Buckley and Carter point to professionalism and a common educational background as factors around which groups cohere in MNCs. The shared background can help overcoming certain obstacles, such as cultural differences, and generate internal knowledge distribution. Moreover, connections between individuals are also formed through social relationships emerging through interactions concerning task related matters as part of conducting their ongoing work. Such connections are giving rise to a more elaborate form of 'networks of practice' (Teigland, 2003), which is found to be highly connected to transfer of knowledge as well.

In conclusion, the available literature suggests a number of key knowledge transfer mechanisms which may be employed at the individual, group and organizational levels. Moreover, a differentiation is made between different types of knowledge transfer forms whether they are based on personal communication, codified or embedded forms. In any case, it seems the form of choice and the actual successes of the transfer don't purely rely on the mechanisms themselves, but on the extent to which they manage to overcome obstacles such as language, culture and professional affiliations. Building on these initial insights, in the next section we explore what literature has identified as key inhibitors of knowledge transfer.

Inhibitors of Knowledge Transfer

Although various mechanisms of knowledge transfer are at MNCs disposal, their effective employment remains a challenge for a number of key reasons. One of which is what was identified by Szulanski (1996, Szulanski, 2000, Szulanski, Cappetta, & Jensen, 2004) as internal stickiness, the origins of which are connected to the characteristics of the knowledge transferred. Causal ambiguity, uncertainty, lack of proofs and records are such kind of characteristics. In addition, the characteristics of the source of knowledge may also hamper knowledge transfer, as in cases where the sender lacks motivation to share knowledge, is regarded as unreliable, or when the sender fears losing ownership, position, privilege or superiority. Moreover, the receiver may also lack motivation to absorb new knowledge, may it be due to a lack of absorptive capacity or rejection of knowledge following the 'not invented here' logic. Finally, characteristics of the context itself are identified as a source of stickiness. This can be a barren organizational context or arduous relationship between source unit and the recipient unit.

Szulanski's study of best-practice transfers in a variety of industries revealed three main origins of stickiness contrary to conventional wisdom that primarily blames motivational

factors. The first one is the lack of absorptive capacity of the knowledge recipient. The second is the causal ambiguity of the knowledge being transferred. And the relationship between the source and the recipient is the third barrier. Moreover, only using incentive systems to mitigate internal stickiness seems inadequate, and scarce resources and managerial attention must be further devoted to developing learning capacities of organizational units, fostering closer relationships between these units, and systematically understanding and communicating practices.

Furthermore, in addition to issues of internal stickiness, MNCs are facing challenges that purely domestic companies are not confronted with to the same degree. MNCs come upon an extraordinary tension in the sense of both being exposed to local and global pressures (Bartlett, Ghoshal, & Birkinshaw, 2003), different institutional expectations and jurisdictions (Kostova & Roth, 2002), and cultural variety and distance when operating in different national markets (Shenkar, 2001). At the same time they are dealing with internal questions and complications of control and coordination between headquarters and subsidiaries (Doz & Prahalad, 1993). All of which are even further amplified by the need for a common corporate language (Marschan-Piekkari, Welch, & Welch, 1999, Marschan-Piekkari, Welch, & Welch, 1999, Piekkari, Vaara, Tienari, & SÃ¤ntti, 2005) in a reality in which operations takes place and knowledge is created within and across multiple language environments.

In summary, barriers to knowledge transfer exist at all levels, whether it is lack of motivation at the individual level, internal stickiness at the organizational level, or cultural, institutional and linguistic issues at the national environment level. However, while all of these pose a significant challenge for MNCs to overcome, one must also acknowledge that some studies have revealed a number of knowledge transfer facilitators, which encourage frequency, quality and effectiveness of knowledge exchanges within MNCs. In the next section we present some of these key elements.

Facilitators of Knowledge Transfer

Although it is critically important to understand the various obstacles for successful knowledge transfer within and across MNCs' units, it is even more important to understand how such barriers may be overcome. A brief literature overview of potential facilitators of knowledge transfer, and especially within the context of tacit knowledge transfer, reveals that trust, shared values, collaborative attitudes, and motivation, are the most prominent facilitators mentioned.

First, trust is viewed as positively influencing actors' willingness to share knowledge (Inkpen & Tsang, 2005). It is necessary for relationship building at personal, corporate and governmental levels, enhancing cooperation and smoothing knowledge transfer (Buckley, Clegg, & Tan, 2006). Wei-Li et al. (2007) have demonstrated the importance of trust in promoting knowledge transfer while emphasizing the affect-based trust, which is consisting of interpersonal care and concern. The affect-based trust can lead to relationships between participants that appear communal. Members of a team where affect-based trust occurs will be more sensitive to their colleagues' needs and more willing to help them. As a result, participants will become more likely to engage in the sharing of knowledge.

Moreover, Levin and Cross (2004) identified that benevolence- and competence-based trust mediate the link between strong ties and receipt of useful knowledge. Benevolence- based trust improves the usefulness of both tacit and explicit knowledge, while competence-based trust is especially important for tacit knowledge exchange. In this context, ability-based trust was also found to be positively related to learning and knowledge transfer (Muthusamy & White, 2005), as it enhances openness between and accessibility to partners which results in mutual knowledge transfer. However, although Dahanaraj et al. (2004) did find support for the notion that trust is especially important for tacit knowledge transfer, they did not find evidence that trust is related to learning.

However, while trust was found to be most relevant in inter-organizational relationships due to costly monitoring and formal control mechanisms (Li, 2005), safeguarding against opportunistic behavior and reducing the need for more costly incentive-based controls, a shared vision seems to be more important in cross-border intra-organizational knowledge transfer. Shared vision is relevant because identification and combination of strategic resources can only be realized if the firms have systems and cultures that are compatible enough to facilitate coordinated action. In this sense, in order to help creating a conducive environment for knowledge sharing a similar sense of reality is prerequisite. This may come in various forms, such as a shared view of a 'big picture' (Versailles & Mérindol, 2006), shared identity and sense of belonging as emerges in social communities (Bresman, Birkinshaw, & Nobel, 1999), or in cases where different groups manage to share similar motivations and goals (Buckley & Carter, 2004).

The creation and enhancement of trust as well as the identification and development of shared values and perspectives are all contributing to the development of collaborative attitudes. Such attitudes are important for creating a positive internal environment facilitating knowledge transfer. And such environment is created when colleagues from different units are viewed as members of a social community, in which identities and values are shared, and through the use of repeated communications, visits and meetings know how may be transferred (Bresman, Birkinshaw, & Nobel, 1999). This is even further supported when informal relations are found to be more important than related competencies in explaining knowledge transfers, as emerged in Hansen and Løvås's (2004) study of technological competence transfers in a large U.S.-based high-tech MNC. Moreover, collaborative attitudes may also be identified in the formation of official and non-official communities of practice (Teigland, 2003) existing within and across organizations and units, where notions of shared

professional background, knowledge, language and norms, all help creating bridges of knowledge exchange between various professional communities.

Finally, while a lack of motivation was recognized as a major obstacle for knowledge transfer, the existence of motivation may serve as a facilitator of knowledge transfer. Motivations have been associated with both incentives and different intrinsic needs, which are necessary for fostering cooperative actions and willingness to share knowledge (Gupta & Govindarajan, 2000, Lane & Lubatkin, 1998, Maciejovsky & Budescu, 2007). In this context, Gooderham et al. (2007) revealed challenges and contradicting results when trying to motivate individuals within organizations to distribute and share critical knowledge throughout the network. They found that both control-oriented approaches, as suggested in the transaction cost economics literature, and appeals to intrinsic motivations influence the achievement of this goal, and since both influence each other, there is a lack of clarity how to manage them simultaneously. This may further be explained by how intrinsic and extrinsic motivations are viewed by employees. Intrinsically motivated employees are experiencing a higher degree of freedom to act and make decisions, making them more involved and more likely to engage in knowledge processes. However, the extrinsic motivations may be perceived negatively as stressful and forceful external control. This was exemplified in Janssen & Mendys-Kamphorst's (2004) study which showed that introducing financial incentives to agents contributing to a socially desirable outcome tends to decrease the number of contributions. Moreover, their findings also pointed out that completely withdrawing the financial incentive does not restore the norm to contribute and may take a long time before it re-emerges.

Therefore, in summary, knowledge transfer may be facilitated through the nurturing of trustful relationships, the development of shared identity and values, managing a delicate balance between satisfaction of extrinsic and intrinsic motivations, all of which culminating in the formation of social communities and communities of practice, where communications and

interactions are based on collaborative attitudes, which are conducive to knowledge exchange, transfer, translation and development.

The Social Dimension of Knowledge Transfer

What clearly emerges from the literature review of knowledge transfer mechanisms, inhibitors and facilitators, both in general and specifically within the context of tacit knowledge transfer, is the central role of social relations, activities and exchanges throughout the process.

Bresman et al. (1999) identified organizations as social communities, where common sets of values and beliefs may be shared among groups and individuals, significantly decreasing risks of opportunistic behaviors. An acquisition represents the bringing together of two social communities that over a period of time (in years) become a single social community. Since MNCs normally acquire many of their subsidiaries this creates a situation in which an even greater diversity of organizational cultures must be merged. In turn, such mergers create opportunities for interaction between units and business divisions within the MNC network of subsidiaries and the headquarters. And what becomes most important is how such interaction becomes more social, integrative and conducive to knowledge transfer.

Björkman et al. (2007) view the aim of *social integration, or socialization*, as an effort to establish a shared set of values and objectives across MNC units (Nohira & Ghoshal, 1994), and providing them with a strong sense of a shared identity and mission (Hedlund & Kogut, 1993, Kostova, 1999). Social integration is conceptualized as the creation of a shared identity, the establishment of trusting relationships, and the absence of divisive conflicts between the members of the combining organizations. And this implies that when different units are socially integrated, they are more likely to exchange complementary knowledge needed to pursue their shared vision (Nahapiet & Ghoshal, 1998).

Sohn (1994) refers to Ouchi's (1980) work when suggesting clans as an alternative governance mechanisms, where non-economic governance mechanisms, such as trust, increase economic efficiency in exchange relationships. However, when adopting a clan view to relations, notions of social knowledge emerge as critical elements in governing such relations. Social knowledge is defined as one's ability to understand and predict others' general patterns of behavior (Tolbert, 1988). Such an approach suggests that an economic actor needs only to understand, but not necessarily share, the value system or behavioral pattern of his / her counterpart to take advantage of a governance system based upon social knowledge. And indeed, support is found for the proposition that for MNCs with social knowledge, the need to resort to ownership for control purposes is reduced.

A similar logic may also be found in Kogut and Zander's (2003) treatment of the firm as a social community that specializes in the creation and internal transfer of knowledge. Here, market failure is not the reason why firms arise, but rather its superior efficiency as a vehicle for knowledge transfer. Cooperation within an organization leads to a set of capabilities that are easier to transfer within the firm rather than across organizations, and therefore constitutes the ownership advantage of the firm. Kogut and Zander find no necessity to link uncertainty and opportunism for explaining why the market is internalized, rather, it is by virtue of the economically efficient organization of transfers inside a given firm, which explains the need to internalize the market.

Extending the view of the MNC as a singular social community, Brown and Duguid (1991, Brown & Duguid, 1998) argue that the firm should be seen as a community of communities, where most organizations are not single communities, but rather hybrid groups of overlapping and interdependent communities. In an attempt to clarify these complex interrelated connections Teigland (2003) found that at the local level individuals are members of communities of practice, and through membership in extended intra-organizational distributed

networks of practice bridges are built between communities and knowledge exchange, transfer, and translation are facilitated.

Suggesting the Social Interaction Approach

Whether one views organizations as efficient mechanisms for organizing market transactions, as integrated social communities or as economic clan-type arrangements, it is the authors' view that all refer to a single phenomenon which may be captured by a conceptualization of a social interaction approach. Such an approach seeks to isolate the phenomenon of social interaction from the means used to achieve it, the facilitating elements enhancing it or the inhibitors which are preventing it.

At the most general of levels, social interaction may be defined as an active involvement of human actors in a bilateral or multilateral exchange with other human actors. At this point it is important to stress that such concept has a temporal dimension, meaning it takes place within a period of time; it has a process dimension, meaning changes occur in between the starting point and end point due to employment of certain means; and it has an impact dimension, meaning results reflecting the change are observable.

In the context of knowledge transfer, social interaction may be defined as an active involvement of human actors in a bilateral or multilateral knowledge exchange with other human actors. Its temporal dimension is defined from the starting point of initial communications to the point where it ceases. Its process dimension is defined in terms of the level to which influence of knowledge transfer facilitators increase, and the level to which the influence of knowledge transfer inhibitors decrease, due to the employment of various knowledge transfer mechanisms. And its impact dimension is defined in terms of the intensity, frequency, quality and amount of actual knowledge transferred.

This process is captured graphically in the model suggested in figure 1 below. This model integrates our suggested conceptualization of the social interaction approach, and the sub-components of the process as they have emerged from the literature review presented earlier.

Insert Figure 1

When reviewing this model it is worthwhile stressing the following points. First, the use of means themselves does not imply knowledge transfer, and in order to achieve it active involvement of participants to the process of exchange must take place. Second, the time frame within which the social interaction process dimension takes place may vary in accordance with the level of inhibitors and facilitators influence at the starting point, as well as the extent to which the inhibitors' influence is reduced and the facilitators' influence is enhanced. Third, in some cases the processes may be cyclical in nature, where the more social interaction takes place the greater the knowledge shared and transferred between participants, which may eventually result in a situation where exchange will be characterized by seamless, smooth and fast interaction.

Propositions

Since, the model suggested above is at an early conceptual developmental phase, although relying on a comprehensive literature review, it is vital to test it empirically for analyzing its potential applicability and limitations. Although the current study's focus is on the conceptual development of the model and not on its empirical validation, a list of concrete propositions are suggested, which may guide the authors' own future research in the area, as well as those who may be inspired by it, and wish to pursue their own related investigations.

First, when investigating the relationship between knowledge transfer mechanisms, which are employed throughout the social interaction process, on facilitators and inhibitors, one may assume that the greater the variety of mechanisms employed the greater the impact on facilitators and inhibitors impact (in opposite directions). The underlying logic here that different mechanisms may better eliminate certain grievances than others, and at the same time enhance trust, motivation and shared views to differing degrees.

For example the use of common corporate language may reduce perceptions of linguistic barriers and enhance collaborative attitudes, but may do little to ease internal stickiness or increase motivation levels. At the same time arranging for frequent meetings and visits (Bresman et al., 1999) may enhance familiarity through which aspects of internal stickiness may be smoothen, and perception of cultural barriers may be lowered, but at the same time do little to enhance trust and create shared visions.

However, a combination of both mechanisms may create an overall improved impact in the sense of weakening the influence of inhibitors and strengthening the influence of facilitators of knowledge transfer. Therefore, we propose the following:

Prop. 1: *The greater the variety of knowledge transfer mechanisms employed,*

(a) the greater the increase in the influence of knowledge transfer facilitators.

(b) the greater the decrease in the influence of knowledge transfer inhibitors.

Secondly, further developing ideas incorporated in proposition 1 above, one may argue that the mere employment of knowledge transfer mechanisms is insufficient to create real significant change in the influence of inhibitors and facilitators of knowledge transfer. This is especially relevant when the whole process is dictated from above and is been endured in a passive way, rather than being internalized in an active involved manner. Hence, the more

actively involved the participants are in the social interaction process, the more intense and rich the experience becomes, and therefore the greater the impact on weakening inhibitors influence and the strengthening in facilitators influence. Therefore, in accordance with this logic, we propose the following:

Prop. 2: *The greater the levels of active involvement of participating units in employing knowledge transfer mechanisms,*

(a) the greater the increase in the influence of knowledge transfer facilitators.

(b) the greater the decrease in the influence of knowledge transfer inhibitors.

Finally, once achieving real change in the relative strength of either weakening the influence of inhibitors or strengthening the influence of knowledge transfer facilitators, the more successful, efficient and effective the knowledge transfer process becomes. This means that efficiency is improved through the shortening of knowledge transfer process cycles and gradual smoothing of repeated processes, which become more frequent and intensive, as well as in improving effectiveness in terms of the quality and amount of knowledge transferred. Therefore, in accordance with this line of thought, we propose the following:

Prop. 3: *The greater the increase in the influence of knowledge transfer facilitators, and the decrease in the influence of knowledge transfer inhibitors,*

(a) the shorter the time period it takes to conclude a certain knowledge transfer task.

(b) the greater the intensity, frequency, quality and amount of knowledge transferred between the interacting units.

The above propositions may be tested in either longitudinal or comparative studies. Longitudinal studies may trace developments through various measurements of related individuals' perceptions along a specific knowledge transfer task. Alternatively, comparative studies may collect data concerning related individuals' perception in similar yet different organizations (e.g. MNCs in the mobile industry) with respect to similar knowledge transfer tasks (e.g. Solving connectivity problems in low coverage areas). In such cases, various organizations will be at different stages of the knowledge transfer process, and may represent different conditions that exist at each such stage.

Such an analysis may be carried out with respect to both intra-organizational and cross-organizational knowledge transfer processes. When focusing on intra-organizational knowledge transfer one may either analyze transfers between headquarters and subsidiaries or between subsidiaries. And, in this context, it is the authors' opinion that the later may be of the greater value, as it offers a more neutral platform for analyzing social interaction, while studies of similar interactions between headquarters and subsidiaries may be influenced by issues of control, ownership and power considerations (Doz & Prahalad, 1984, Hedlund, 1984, Nohira & Ghoshal, 1994) to a larger extent than inter-subsidiary knowledge transfer processes, where more social aspects such as trust, collaboration and shared value may emerge (Björkman, Stahl, & Vaara, 2007).

In any case, from an operationalization point of view, some components of the model may be objectively measured (e.g. 'active involvement' may be measured by the number of meetings attended, number of suggestions made, number of initiatives proposed, etc.) and some may require subjective perceptual testimonies to be collected from individuals involved (e.g. influence of inhibitors or facilitators such as in testimonies about trust, value perceptions, levels of motivation, perceptions of cultural distance, etc.).

In summary, based on the proposed model and its strong anchoring in existing literature, the outlined list of propositions, and the initial ideas concerning empirical research that may follow, it is the authors' opinion that the groundwork for conducting related research has been laid down. The conceptualization of knowledge transfer process as a social interaction is in agreement with earlier conceptualizations, and at the same time adds structure, terminological coherence, and highlights potential relations between sub-components in a way which both extends and simplifies earlier studies' findings. Moreover, such an approach strives to serve as a framework where explanations for both explicit and tacit knowledge transfer may be found, and in this sense making even a further contribution to the understanding of tacit knowledge transfer means, processes and outcomes.

Conclusion

The current paper has identified social interaction as a common underlying theme across a variety of literatures dealing with knowledge transfer within MNCs' contexts. Emerging from a literature review, a number of key knowledge transfer mechanisms, as well as inhibitors and facilitators have been identified. All of which integrated into a proposed social interaction model of knowledge transfer, supplemented by a list of key related-propositions.

Knowledge transfer mechanisms may operate at the individual, group and organizational levels of analysis, and may take a variety of forms, including personal communication, codified or embedded forms. However, proper employment of such mechanisms requires active involvement of participants and is expected to result in gradual increase of the influence of knowledge transfer facilitators, and gradual decrease in the influence of knowledge transfer inhibitors. Main facilitators identified include trust, shared values, collaborative attitudes and motivation, while main inhibitors include various aspects of

internal stickiness, lack of motivation and perceptions of cultural distance, institutional differences, and linguistic barriers.

This process takes place through time where various perceptions' changes occur, through repeated active involvement and the employment of a variety of knowledge transfer mechanisms by participant units and individuals. All of which suggesting an increasing level of social activity and exchange, which at the end of the process culminate in successful knowledge transfer that may be measured in terms of intensity, frequency, quality and amount of knowledge transferred.

Such conceptualization is especially valuable when studying tacit knowledge transfer, as it stresses social elements in the interaction between organizational units and individuals and recognizes the interplay between involvement and changing perceptions – where trust, shared values, motivation and collaborative attitudes are not only enhanced, but are doing so at the same time as internal stickiness is untangled and perceptions of cultural, institutional and linguistic barriers are weakened.

Certainly, the social interaction model of knowledge transfer still requires empirical validation in order to achieve its full potential and clout. However, important milestones in this direction have been laid out for future research by both the authors and those inspired by the ideas presented earlier. Of particular interest may be longitudinal and comparative studies that will be able to trace relevant changes along the knowledge transfer process, and especially if such analysis will examine inter-subsidiary exchanges within MNCs operating across-borders, rather than transfers between headquarters and subsidiaries.

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FIGURE 1: Social Interaction Model of Knowledge Transfer

