Influences of Culture on Inter-Unit Knowledge Transfer Processes within Multinational Corporations

Chieh-Yu Lin, Associate Professor, Department of International Business, Chang Jung Christian University

ABSTRACT

This paper explores the influence of culture on inter-unit knowledge flows in multinational corporations. Based on literature review, the knowledge transfer process is categorized by the extent of exact copying of knowledge and the utilization of information technology. Individualism/collectivism dimension is chosen as the cultural factor. In addition, characteristics of knowledge are also taken into consideration in this paper, which consist of applicability and transferability. Multinational corporations in Taiwan are surveyed. Based on the results of questionnaire survey, both culture and knowledge characteristics have significant influences on inter-unit knowledge transfer processes within multinational corporations.

Keywords: knowledge transfer, multinational corporations, culture, knowledge characteristics

INTRODUCTION

Knowledge has been recognized as a primary resource of organizations (Drucker, 1992). Dealing with knowledge creation, transfer, and exploitation will be increasingly critical to the survival and success of corporations (Hedlund & Nonaka, 1993). An amount of research in the area of international business indicates that globally distributed knowledge transfer networks of firms constitute an important source of competitive advantage for multinational corporations (MNCs). MNCs can derive great competitive advantage by managing knowledge flows between their subsidiaries. The management of knowledge in MNCs involves projecting knowledge between different units of the corporation, e.g. from the centre (home-base) to the periphery (subsidiary) or vice versa (Schulz & Jobe, 2001). Foss and Pedersen (2002b) argue that interdependence among the units of a multinational cooperation will result in more transfers of internally developed knowledge. It has been suggested that MNCs need to transfer unique knowledge to the foreign subsidiaries to build competitive advantage and offset some of the disadvantages of operating in these alien environments (Kogut and Zander, 1992; Birkinshaw & Hood, 1998; Frost, 2001; Rugman & Verbeke, 2001). One of the reasons why MNCs exist is their ability to transfer and exploit knowledge more efficiently in the intra-unit context than through the market (Gupta and Govindarajan, 2000). Sharing of best practices, experiences and knowledge across subsidiaries will result in continued improvements in quality and reduced costs. Knowledge is a company’s only enduring source of advantage in an increasingly competitive world (Argote and Ingram, 2000; Birkinshaw, 2001). Knowledge transfer is of considerable benefit to the subsidiary operation, which often has a limited knowledge base (Manne, 1965; Haspeslagh and Jemison, 1991).

However, whilst knowledge transfer is a key for achieving competitive advantage, it does not always take place efficiently or effectively (Szulanski, 1996; Gupta and Govindarajan, 2000). The problems and the challenges MNCs encounter are to manage knowledge in an effective way to increase their competitive advantages. The capability of MNCs to efficiently combine knowledge from different locations around the world is becoming increasingly important as a determinant of competitive success (Doz & Prahalad, 1991). A key to understand the success or failure of knowledge transfer within MNCs is the identification and assessment of the context in which knowledge transfer takes place and the preconditions that are necessary for the effort to flourish (Gold, Malhotra, & Segars, 2001). Researchers investigating the difficulty of knowledge transfer identified potential sources such as economic incentives, abilities of the learner and the teaching unit, organizational context, and the characteristics of knowledge. A number of empirical studies have focused on how particular factors influence knowledge transfer within MNCs. The factors that have so far attracted researchers’ attention include knowledge sources (Foss and Pedersen, 2002a), the characteristics of the
transferred knowledge (Zander and Kogut, 1995; Szulanski, 1996; Simonin, 1999), absorptive capacity of knowledge receivers (Szulanski, 1996; Lyles and Salk, 1996; Lane and Lubatkin, 1998; Gupta and Govindarajan, 2000; Lane, Salk and Lyles, 2001; Minbaeva et al, 2003), and organizational context in which the transfer takes place (Szulanski, 1996; Simonin, 1999; Bresman et. al., 1999; Gupta and Govindarajan, 2000). Individuals and organizations share several dimensions of context, e.g. climate, nationality, education, political, justice, economic, and other systems, corporate governance, management styles, and incentive schemes (Doz & & Santos, 1997) and each of these dimensions can influence the knowledge transfer process.

MNCs have to enable communication between those individuals who need and those who own knowledge, and furthermore to make sure that the relevant subsidiary knowledge is actually made available to those units within the MNC that need it (Foss & Pedersen, 2002a), and therefore has to be constantly aware that the knowledge accumulated in various parts of the firms needs to be localized, examined and used at another location within the MNC. It has also been argued that with the increase in globalization, knowledge transfer may also occur among entities that are not necessarily co-located, but separated by geographic distances and national culture (Nonaka, 1994; von Krogh, Ichijo, & Nonaka, 2000). Therefore, this paper will focus on the transfer of corporate knowledge from headquarter to subsidiaries located in different cultural and geographical settings and vice versa, and give an overview on the influential factors during the knowledge transfer process between two company units located in two culturally different locations. In this paper the focus is on culture and its influence on inter-unit knowledge transfer processes within MNCs. Moreover, Szulanski (1996) argues that knowledge characteristics are the most significant determinant of the eventfulness of knowledge transfer. The characteristics of transferred knowledge will also be considered in this paper. The next section presents a summary of knowledge transfer, culture, and characteristics of knowledge, and proposed the research hypotheses. Section three gives a description of the research methodology, while section four focuses on the analysis of the results and the discussion of the findings. The final section gives conclusions and research’s implications.

LITERATURE REVIEW

Knowledge transfer

What is knowledge? It may include all data, information, documents, programs, experience, tacit knowledge-skills, innovative and deductive capabilities and other patterns. A firm’s ability to perform an activity rests on its knowledge of that activity, that is, competence rests on technological and market knowledge. Technological knowledge is knowledge of components, linkages between components, methods, processes, and techniques that go into a product or service. Knowledge can be defined as the ways we organize data to make sense of it (Dixon, 1994). Knowledge management involves creating value from localized knowledge by combining spatially separate sources of knowledge. Research in knowledge management analyzes how knowledge is created or acquired, disseminated, and used within organizations.

Nonaka (1994) suggests that one of the most important aspects of knowledge management is the transfer of knowledge from one set of individuals to another. Knowledge can be conceptualized as a product that can be transferred from one entity to another (Sarker et al., 2005). Knowledge transfer can occur among entities spanning multiple levels, that is, among individuals, groups, and organizations (Inkpen & Dinur, 1998; Argote & Ingram, 2000). Knowledge has to be in the appropriate form, time and location. The wrong form means that knowledge is not present in its optimal form, for instance in a thick manual or only in one person. The wrong time is when knowledge is only present between certain hours. The wrong location is when knowledge is not present where it is mostly needed in the organization or when it is fragmented so that no synergies occur (Spek & Spijkervet, 1997). The firm needs to know where its knowledge assets and sources are located, and needs to find a means of combining specific knowledge (Buckley & Carter, 2002). The transfer of knowledge between two distant units of a MNC or between two different functional units at HQ implies knowledge flows from its primary holder to the secondary holder (Doz & Santos, 1997). Knowledge transfer depends on the ease of knowledge transport, interpretation and absorption (Hamel, Doz, & Prahalad, 1989). Szulanski (2000) suggests that knowledge transfer is often laborious, time consuming, and difficult, and argues that in order to make the process more effective and the outcomes more favorable, it is important to examine the impediments to knowledge transfer. The process of knowledge transfer can be supported or hindered by different organizational
means and conditions (Foss & Pedersen, 2002a). Successful knowledge transfer depends on situation characteristics of the knowledge transfer process (Szulanski, 1996).

The research on the types of knowledge transfer processed is even less developed and more fragmented. One established dimension to differentiate among knowledge transfer processes is the extent of exact copying of knowledge in other parts of the organization. Replication refers to those knowledge transfers where a particular practice is copied as detailed as possible. On the other hand, adaptation allows the receiving unit to modify knowledge and make changes according to idiosyncrasies of its context. In a normative article, Szulanski and Winter (2002) suggest that firms need to focus on replication for best leveraging of knowledge. Empirical work by Williams (2002) found that investments in both replication and adaptation have positive impact on knowledge transfer.

Hansen, Nohria, & Tierney (1999) argue that the firm’s strategy to manage knowledge can be divided into two categories: codification and personalization. Recent developments in knowledge management practices and information technology (IT) provided knowledge managers with new tools as knowledge transfer mechanisms. Traditionally knowledge transfer mechanisms were based on personal communication and training. Due to the developments in information and communication technologies, firms are trying to capture existing knowledge in individual minds and organizational routines on intranets, web-based search engines, databases, and computer aided collaboration methods. In order to transfer knowledge effectively firms need to accomplish a healthy balance of IT-based transfer mechanisms and personal interaction. In terms of mechanisms, most researchers distinguish between IT-based approaches to transfer and more personal mechanisms.

Culture

Culture is a key issue in international businesses. For knowledge transfer across national boundaries, the cultural characteristics of the knowledge source have been seen to be an important enabler or inhibitor (Davenport & Prusak, 1998; Bhagat et al., 2002). Hofstede (2004) defines culture as the collective programming of the mind which distinguishes the members of one category of people from those of another. Culture is commonly understood as the shared set of beliefs that influence what we consider to be meaningful and valuable. Disciplines, professions, and institutions in modern bureaucratic society nurture and transmit cultural values and meanings (Albrow, 1990). For cross-cultural interaction within MNCs, one of the primary factors that may affect knowledge sharing is the national culture of the knowledge source (Yoo & Torrey, 2002). The cultural differences between the source and the recipient will impede the knowledge transfer process (Simonin, 1999). Lyles and Salk (1996) indicate that cultural differences often affect the flow of knowledge and learning. Walsham (2001) argues that, due to the differences in the concept of knowledge itself and the nature and form of knowledge transfer processes, knowledge sharing depends heavily on culture.

Culture has been studied in terms of a number of dimensions. Hofstede (2004) provides four cultural dimensions: power distance, uncertainty avoidance, individualism/collectivism, and masculinity/femininity. Power distance is the extent to which individuals in a society accept inequality in power, considering it normal. Uncertainty avoidance is the extent to which individuals become nervous in unstructured and unpredictable situations, and therefore attempt to avoid these situations by adopting strict codes of behavior. Individualism/collectivism indicates the extent to which individuals see themselves as members of a larger group with which they exchange loyalty and obligation for social protection. Masculine cultures are those that value material success and assertiveness, whereas feminine cultures tend to place more value on qualities such as interpersonal relationships and concern for the weak. Although each dimension has its set of supporters and critics, individualism/collectivism has been seen by many researchers as the key dimension for understanding cross-cultural differences in social norms, values and behaviors (Triandis, 1995; Chen, Chen, & Meindl, 1998; Anakwe, Kessler, & Christensen, 1999; Azevedo, Drost, & Mullen, 2002; Thomas, 2002; Sarker, et al., 2005). Therefore, this paper will focus on the influences of individualism/collectivism dimension on inter-unit knowledge transfer within MNCs.

Individualism/collectivism dimension refers to the relationship between the individual and collectivity that prevails in a given society (Hofstede, 2004). In an individualistic society, people are known to view themselves as independent and to be motivated by their own thoughts and preferences. They prefer to venture out their own and believe that
withholding information is the key to success in a work environment. On the other hand, people from a collective society believe that the success depends on the ability to share knowledge with others, and they prefer to involve others in almost every aspect of their work (Hofstede, 2004). Bhagat, et al. (2002) indicate that individualism/collectivism affects the way an individual thinks as well as the way an individual processes, interprets, and perhaps even share knowledge. Sarker, et al. (2005) argue that there is a positive causal link between the level of cultural collectivism of an individual, and the amount of knowledge transferred by that individual to his or her remote members. Consequently, we predict the following hypotheses:

$H_1$: Individualism/collectivism factors will influence the inter-unit knowledge transfer processes within MNCs.

$H_{1a}$: The higher the level of collectivism, the more extent of exact copying of knowledge in the knowledge transfer process.

$H_{1b}$: The higher the level of collectivism, the more likely that the IT-based knowledge transfer mechanisms will be used.

Characteristics of knowledge

It is impossible for a knowledge manager to tell everyone in the firm what kind of knowledge firm’s employees need. A knowledge manager’s effort is to help employees find the knowledge that they need. Content of knowledge is about knowledge quality. Bad knowledge can be at least as harmful as good knowledge can be valuable. Knowledge of good quality is up-to-date, uniform and possible to apply to the business (Van der Spek & Spijker, 1997). In order to distinguish the knowledge most favorable to transfer, it is essential to have a framework for knowledge categorization that is best suited to transfer and yields the highest returns in relation to the cost of transfer (Novins & Armstrong, 1997). Categorization of knowledge is about for whom the knowledge is useful and how easy it is to transfer it to others. Based on the framework for the categorization of knowledge proposed by Novins & Armstrong (1997), knowledge can be categorized by applicability and transferability.

The applicability of knowledge is about how broadly the knowledge can apply. Specific knowledge applies only to a limited set of conditions. It can be called “detailed” knowledge. General knowledge on the other hand is applicable across the organization. It crosses process, industry technical and cultural bounds. The nature of general knowledge makes it more valuable to transfer to other locations. Since general knowledge is applicable over a wide range of the organization, it is also useful to more people. Knowledge is generally generated from different sources and therefore associated with different degrees of ease of transfer. Knowledge transferability is about how difficult it is to transfer the knowledge. Availability of knowledge is about how easy it is to find and gain access to knowledge. The two extremes on the knowledge transferability scale are tacit and explicit. Transferability is about how much the knowledge is dependent on the context in which it is presented, how much meaning that would be lost if some or the entire context was removed (Novins & Armstrong, 1997). Tacit knowledge is personal, context specific and therefore hard to formalize and communicate. Tacit knowledge includes cognitive and technical elements or “mental models” such as schemata, paradigms, perspectives, beliefs and viewpoints, which help individuals define their world. The technical element of tacit knowledge includes know-how, crafts and skills. Knowledge of experience tends to be tacit, physical and subjective (Nonaka & Takeuchi, 1995). Explicit knowledge or codified knowledge refers to knowledge which is transmittable in formal, systematic language. Explicit knowledge is often about past events and objects, and created by digital activities.

For the knowledge that is both easy to transfer and broadly applicable, the right strategy is to package it and widely disperse it in the organization. This kind of knowledge is often the cause for information overload. The pull technique is often to prefer for information dissemination. For the knowledge that is widely applicable but also hard to transfer, a richer medium is needed to transfer the knowledge. The preferred medium is often formal training or apprenticeship. For the knowledge that is easy to transfer but not very broadly applicable, it is best managed by placing it in an accessible spot, like a searchable database, so that people can access it when the need arises. This knowledge should not be distributed using a push technique, which could create a big risk of causing information overload, with information that for most is of little value. For the knowledge that is neither easy to transfer nor broadly applicable, because the benefit of managing this category of knowledge is low, it makes little sense to practice knowledge management with it. Therefore it is sufficient in this area to use more informal low-cost methods, like supporting the establishment of
informal networks between professionals (Novins & Armstrong, 1997).

Much of the knowledge of why a design is as it is not made explicit, it is held in peoples’ heads and it is usually ambiguity. Ambiguity of knowledge is defined by resistance to clear communication, embeddedness in context and idiosyncrasy (Simonin, 1999) and obscures how the features of the new context affect the results of the replication effort and successful implementation at the receiver’s unit (Szulanski, 1996). This knowledge is accessed through social interaction. Petersen, Pedersen, & Sharma (2001) find that firms use written documents as transfer mechanisms more heavily if knowledge is purchased from outside whereas daily face-to-face communication is preferred for the transfer of knowledge generated by own experience. To transfer tacit knowledge, it has to be codified into forms, which allow successful implementation at the receiver’s unit. The ability to transfer tacit capabilities into a comprehensible code, understood by a large number of people derives from the collective experiences of members to a firm organized by persisting rules of coordination and cooperation (Zander & Kogut, 1995). Von Krogh, Ichijo, & Nonaka (2000) suggest that the recommended instruments of transferring tacit knowledge are social interaction between company members, storytelling, traditions, routines, and learning-by-doing. Explicit knowledge can be easily formulated by means of symbols and can be digitalized. This kind of knowledge can thus with relative ease be transferred to others by the use of information technology (Johannessen, Olaisen, & Olsen, 2001). Consequently, we predict the following hypotheses:

\( H_2 \): Characteristics of knowledge will influence the inter-unit knowledge transfer processes within MNCs.

\( H_{2a} \): The more applicability of the knowledge, the more extent of exact copying of knowledge in the knowledge transfer process.

\( H_{2b} \): The more applicability of the knowledge, the less likely that the IT-based knowledge transfer mechanisms will be used.

\( H_{2c} \): The more transferability of the knowledge, the more extent of exact copying of knowledge in the knowledge transfer process.

\( H_{2d} \): The more transferability of the knowledge, the more likely that the IT-based knowledge transfer mechanisms will be used.

**Research Methods**

Data were collected by means of a questionnaire mailed to multinational corporations in Taiwan. The questionnaire contains four parts: knowledge transfer, cultural dimension, characteristics of knowledge, and company’s basic information. There are 52 questions in that questionnaire. Besides the company’s information, the other items were measure using the 5-point Likert scales anchored by ‘strongly disagree’ and ‘strongly agree’. Five hundred questionnaires were mailed to the selected sampling companies. In total, 138 completed questionnaires were returned. Of these respondents, 11 uncompleted or unconfident questionnaires were excluded. The overall response rate is 25.4%. Factors with eigenvalues greater than 1.0 and results of the reliability analysis are summarized in Table 1. According to the reliability coefficients shown in Table 1, the smallest value of Cronbach’s alpha for this study is 0.6811. This implies that the sampling results are reliable.

<table>
<thead>
<tr>
<th>Table 1 Factor and Reliability Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors</td>
</tr>
<tr>
<td>------------------------------------</td>
</tr>
<tr>
<td>Knowledge transfer processes</td>
</tr>
<tr>
<td>Extent of copy</td>
</tr>
<tr>
<td>IT utilization</td>
</tr>
<tr>
<td>Culture</td>
</tr>
<tr>
<td>collectivism</td>
</tr>
<tr>
<td>Characteristics of knowledge</td>
</tr>
<tr>
<td>applicability</td>
</tr>
<tr>
<td>transferability</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
RESULTS AND DISCUSSIONS

In order to find the influences of culture and characteristics of knowledge on knowledge transfer processes within MNCs, the method of regression analysis is used. We take factors of collectivism, applicability and transferability as independent variables. Extent of copy and IT utilization are taken as the dependent variable, respectively. Table 2 shows the results of regression analysis. It can be found that both overall regression equations for knowledge transfer are significant, and the three factors have different significant influencing effects. This means that the hypotheses proposed by this paper are supported. We can conclude that culture and knowledge characteristics have significant influences on inter-unit knowledge transfer processes within MNCs.

Table 2 Regression Results

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Extent of copy</th>
<th>IT utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture collectivism</td>
<td>Coefficient β</td>
<td>t</td>
</tr>
<tr>
<td>Culture collectivism</td>
<td>0.184</td>
<td>3.114**</td>
</tr>
<tr>
<td>Knowledge applicability</td>
<td>0.143</td>
<td>2.538*</td>
</tr>
<tr>
<td>Characteristics transferability</td>
<td>0.201</td>
<td>4.609**</td>
</tr>
</tbody>
</table>

R² 0.483 0.491
adj R² 0.396 0.402
F 7.582** 7.269**

*p<0.05  **p<0.01

CONCLUSIONS

As MNCs get more effective in transferring knowledge inside the firms, there are many benefits they can enjoy by leveraging existing knowledge. When knowledge is transferred to other units in the MNC, those units do not have to reinvent the wheel, which is costly. They avoid similar mistakes, move much faster on the learning curve, can match client needs across different geographic markets, retain knowledge of key employees and reduce the need to rework. However these benefits are not easily achieved in absence of required investments.

This paper studies the influences of culture on knowledge transfer within MNCs. Characteristics of knowledge are also taken into consideration. It is found that culture and knowledge characteristics have significant influences on inter-unit knowledge transfer processes within MNCs. We do not claim that these are the only factors that affect inter-unit knowledge transfer within MNCs. Szulanski (2000) indicates that five basic elements can potentially influence the transfer of knowledge: channel, message, context, recipient, and source. In addition to culture and knowledge characteristics, a further study on the inter-unit knowledge transfer can examine the influences of other factors on inter-unit knowledge transfer processes within MNCs.

REFERENCES


