Knowledge translation through expatriates in international knowledge transfer

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A R T I C L E   I N F O

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Knowledge translation
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A B S T R A C T

Studies of international knowledge transfer usually focus on the transfer of knowledge without loss between organizational units. However, this research has frequently been inconclusive because of the tacit nature of knowledge and the difficulties of measuring the results of knowledge transfer. Therefore, we suggest a paradigmatic shift of research from knowledge transfer without loss, to knowledge translation as a matter of modification of knowledge when transferred from one context to an other. According to this perspective, the knowledge transfer between the MNE HQ and foreign subsidiaries is a socio-cultural process in which expatriates can be expected to play an important role.

In this paper, we study the impact of expatriates in knowledge translation from MNE HQ to foreign subsidiaries. Through an empirical analysis, we examine how the characteristics of expatriates influence the usefulness of knowledge transferred internationally. An important result of the study is that the expatriation experience and, in particular, the relationship development capability has significant positive effects on the international knowledge translation process. However, we did not find any statistical evidence that an expatriate's experience of the particular industry or the particular country has a significant effect.

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1. Introduction

The knowledge transfer between the HQ (Headquarters) of MNCs (Multi-national Companies) and foreign subsidiaries is an important research topic in international business (Choi & Lee, 1997; Inkpen & Beamish, 1997; Kogut & Zander, 1993; Lyles & Salk, 1997; Makino & Delios, 1997). In general, the research on knowledge transfer has two perspectives: one focuses on the characteristics of the knowledge that is transferred (Kogut & Zander, 1993; Lyles & Salk, 1997), and another focuses on the processes and interactions involved in knowledge transfer (Choi & Eriksson, 2001; Simonin, 1999).

The study of knowledge transfer faces two critical obstacles: the difficulty of conducting empirical research owing to the tacit nature of knowledge and the problem of measuring the outcomes of knowledge transfer (Choi & Lee, 2004). Hence, many researchers conduct case studies and focus on a process of knowledge transfer (Delios & Beamish, 2001; Simonin, 1999). To overcome the obstacles, this paper proposes a paradigmatic shift of the study of knowledge transfer. While knowledge transfer is regarded as a matter of transferring knowledge without loss, knowledge translation focuses on the modification and use of knowledge in the new organizational and cultural context; that is, knowledge, which is developed in a certain socio-cultural context, has to be translated in order to become useful in a new context.

Recently, in the study of knowledge transfer between MNE HQ and foreign subsidiaries, the role of expatriates has been highlighted. They are effective moderators in solving obstacles caused by the tacitness of knowledge, and they are excellent

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conduits of a company’s complex knowledge into a foreign subsidiary (Black, Gregersen, Mendenhall, & Dddou, 1991; Bouquet, Hoert, & Delios, 2004; Doz, Santos, & Williamson, 2001).

The previous expatriate studies are mostly conceptual (Bonache & Brewster, 2001) or pertain solely to the general background of expatriates, such as their business experience or experience in a foreign country (Bjorkman, Marner-Rasmussen, & Li, 2004; Hoert, Very, & Beamish, 2004). This means that a more systematic and comprehensive approach is needed to analyze how expatriate characteristics can affect the international knowledge transfer process with regard to both knowledge translation and usefulness of the knowledge transferred. Thus, the purpose of this paper is to start from a knowledge translation perspective and analyze the effects of expatriate characteristics on the knowledge transfer process and to examine empirically how it influences the usefulness of the new knowledge in the new context.

We first present a short review of the existing literature on knowledge transfer and the role of expatriates in foreign subsidiaries. Then, based on the literature review, we discuss and hypothesize the relation between expatriate characteristics and international knowledge transfer. Next, we discuss the administration of a questionnaire and the use of statistical analysis to test the hypotheses empirically. Using the results of the analysis, we then offer some concluding remarks and suggest a few managerial implications.

2. Literature review of knowledge transfer and the role of expatriates

Studies on knowledge transfer seldom account for and discuss the transferability of knowledge (Bresman, Birkinshaw, & Nobel, 1999; Hedlund, 1994; Madhok, 1997; Mansfield & Romeo, 1980). Researchers naturally tend to assume that knowledge, especially technological knowledge, can be transferred. However, some researchers have questioned the possibility of knowledge transfer (Johanson & Vahlne, 1977; Madhok, 1997). They argue that some types of knowledge, such as experience-based knowledge or the knowledge embedded in a firm, cannot be transferred to others.

Divergent views on the transferability of knowledge come from different theoretical perspectives on international business. That is, researchers of international business often have different focuses and concerns. Theoretical perspectives on the internationalization of firms can be classified into two groups: static and dynamic (Barkema, Bell, & Pennings, 1996; Choi, 2001). In the static perspective, the internationalization level of firms depends on a comparison of the cost and benefits caused by management decisions (Dunning, 1988; Hennart, 1988; Hill, Hwang & Kim, 1990). In contrast, the dynamic perspective focuses on the interaction processes between business actors in international business (Johanson & Vahlne, 1977, 1990; Welch & Luostarinen, 1993). The different theoretical perspectives on international business provoke different perspectives on the issue of knowledge transfer.

2.1. Static vs. dynamic perspective of knowledge transfer

The static perspective assumes that knowledge transfer is an unproblematic process because knowledge is an objectified asset and its meaning is embedded in words. It assumes that technology is the most critical knowledge of firms and that superior technology is the main source of international competitiveness. Thus, the key issue for MNCs is the effective transfer of technology from their HQ to subsidiaries in foreign countries (Mansfield & Romeo, 1980).

A common point in many studies is that the static factor of knowledge, for example, the characteristics of knowledge itself, is critical in the knowledge transfer process. That is, characteristics, such as the complexity of knowledge, are considered the most important factors in the transfer of knowledge between firms. Moreover, in the static view, the explicit knowledge associated with technology is regarded as crucial.

In the dynamic perspective, it is assumed that the characteristics of knowledge itself are not the only influencing factor in knowledge transfer. The relations between firms that participate in the knowledge transfer process are critical because all knowledge has tacit (Polyanyi, 1966) and sticky (Simonin, 1999; Szulanski, 1996) elements as well as explicit elements. This tacitness of knowledge cannot be fully transferred without understanding the backgrounds of knowledge. So, frequent and continuous contacts and a long period are required to transfer these kinds of tacit knowledge (Bresman et al., 1999) (Table 1).

Table 1
Comparison among knowledge transfer perspectives.

<table>
<thead>
<tr>
<th>Knowledge concept</th>
<th>Static perspective</th>
<th>Dynamic perspective</th>
<th>Knowledge translation perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key success factor in know. transfer</td>
<td>Characteristics of knowledge</td>
<td>Explicit + Tacit</td>
<td>Explicit + Tacit</td>
</tr>
<tr>
<td>Perception on transferability of knowledge</td>
<td>Unproblematic</td>
<td>Relationship development</td>
<td>Mutual involvement with high absorptive capacity</td>
</tr>
<tr>
<td>Critical determinant</td>
<td>Cost</td>
<td>Relationship</td>
<td>Usefulness (cost/benefit)</td>
</tr>
<tr>
<td>Main Focus</td>
<td>Movement of knowledge</td>
<td>Easier transfer by relationship development</td>
<td>Internalization through learning process (Re-creation)</td>
</tr>
</tbody>
</table>
Therefore, the concept of knowledge as an object of transfer is broadened in the dynamic perspective. In addition to explicit knowledge, such as technology, tacit knowledge like business management know-how is also added in the definition of knowledge (Kogut & Zander, 1993; Simonin, 1999).

This expansion of the knowledge concept brings about a debate on the transferability of tacit knowledge. Although the transferability of explicit knowledge is unproblematic, the transferability of tacit knowledge is problematic. Knowledge that is highly embedded in its organizational/cultural context is quite difficult to transfer. In the dynamic perspective, therefore, relationship development is emphasized as a means to facilitate knowledge transfer. When two firms have a close relationship and a prior, shared business experience, they can transfer knowledge with reduced time and cost; without that type of relationship, the transfer of knowledge involves considerable time and cost (Chen & Chen, 1998; Cohen & Levinthal, 1990; Coviello & Munro, 1997; Ellis, 2000).

2.2. The knowledge translation perspective of knowledge transfer

Recently, knowledge as an object of transfer has become increasingly complex by the development of high tech and high knowledge-based industry. Moreover, in addition to the successful transfer of such complicated knowledge, the use and internalization of transferred knowledge in the organization has to be considered more seriously. Therefore, we propose the knowledge translation perspective, suggesting that knowledge transfer is not a process of simply moving knowledge from one organizational unit to another, but it is rather a modification and adaptation process of knowledge, which has been created in different socio-cultural and organizational contexts (Choi, 2001; Choi & Eriksson, 2001).

Thus, knowledge, which is developed in other organizational and market contexts, has to be modified and developed in the transfer process in order to be used in the new context. For instance, the widely and logically accumulated knowledge of consulting firms has to be modified into the client’s organizational context. Otherwise, it will just be a sword in its sheath.

In addition, this perspective emphasizes that knowledge transfer is a continuous interaction process instead of short-term training or observation. When certain knowledge is transferred from one organizational unit to the other, they have to understand differences in knowledge-related information and environments, for example, the specific organization/culture contexts. Therefore, the level and amount of knowledge translation depends on the character and intensity of the interaction between the units and the absorptive capacity of the receiving unit through previous experience. As suggested by the socio-cognitive approach to knowledge transfer (Ringberg & Reihlen, 2008; Schon, 1983), learning and understanding is an active, constructive, and generative process of meaning production shaped by cognitive, emotive, and volitional processes of the thinking subject (usually a wholly participating and responsible person for the knowledge translation).

In the knowledge translation perspective, the usefulness of the translated knowledge is more of the focus than the cost of knowledge transfer. Firms translate knowledge because they want to use the knowledge for solving problems in implementing business practices. Thus, even though the cost of new knowledge translation is high, it will be worth the cost if it is of great use in a business activity or can produce results that are more profitable. However, previous perspectives are interested in the efficiency of the transfer process, that is, they are primarily concerned with the cost of transferring knowledge (Lyles & Salk, 1997; Mansfield & Romeo, 1980).

Therefore, we suggest a paradigmatic shift of the concept of knowledge transfer—from knowledge transfer as a matter of transferring other’s knowledge without loss, to knowledge translation (Latour, 1986) as a matter of modification and use of other’s knowledge into the new organizational and cultural context. We emphasize the usefulness of the transferred knowledge through modification into the new context. It is a re-creating process like when we translate foreign language into our own language. In order to translate foreign languages correctly, we need to learn enough linguistic knowledge of the foreign language as well as to understand its historical/social/cultural backgrounds. After that, translators can recreate the foreign-language text in the new context.

2.3. The role of expatriates in international knowledge transfer

In order to translate knowledge received from others, firms need to have mutual involvement between the units and have ample absorptive capacity. Usually mutual involvement requires frequent information exchanges and communication between the units. Interaction of this type between organizations is, in general, implemented by expatriates. That is, an expatriate plays a role as a conduit for knowledge flows between the HQ and its subsidiaries.

Additionally, the quality and amount of knowledge translation can be expected to depend on the capability and experience of the expatriate (Sohn & Paik, 1994), because the expatriate learns and provides modification through the knowledge translation process. Cognition, judgment, and reaction to market signals can vary depending on the absorptive capacity and previous experience of a person. This is because an experienced and highly knowledgeable expatriate can understand and identify market signals at a higher rate of effectiveness. This perspective is also supported by the socio-cognitive approach to knowledge transfer, suggesting that knowledge transfer is always endogenous to the mind and body (Ringberg & Reihlen, 2008, p. 913).

The important role of expatriates in international knowledge transfer process has been found in several studies (Bjorkman et al., 2004; Bonache & Brewster, 2001; Evans & Mavondo, 2002). Bonache and Brewster (2001), in particular, describe expatriation as a mechanism of knowledge transfer and point out that the complexity of knowledge enhances the
strategic importance of knowledge transfer through expatriates. Moreover, Bjorkman et al. (2004) show that the number of expatriates from the MNC has a positive effect on the scope of the knowledge transferred.

In these studies, the results show that the personal characteristics of expatriates, such as, their business experience in a particular country or industry are significant factors. However, these aspects (business experience and industry experience in a certain country), are not enough to solely represent characteristics of expatriates that can affect the international knowledge transfer process.

Previous expatriation experience can be a critical personal characteristic that affects the international knowledge transfer process. Through expatriation experience, expatriates can learn how to enhance their interaction into foreign subsidiaries’ business activities and emotional stability. The personal relationship-development capability of an expatriate can be an important factor which can affect the knowledge transfer process. This experience can on a more personal level also provide a reduction in certain levels of uncertainty in current or future assignments. As mentioned above, knowledge transfer is often the result of personal interaction between expatriates and the receiving organizational units (Bresman et al., 1999).

3. Effects of the personal characteristics of expatriates on international knowledge transfer

3.1. Effects of the experience of a particular industry

The knowledge that is transferred from the HQ of MNCs to a foreign subsidiary has various characteristics. Bresman et al. (1999) report that explicit-oriented knowledge can be transferred more easily than tacit-oriented knowledge because the effective transfer of tacit-oriented knowledge requires personal interaction. The transfer of tacit-oriented knowledge requires more frequent personal visits and meetings than the transfer of explicit-oriented knowledge does because tacit-oriented knowledge needs to be understood more accurately. Moreover, more time and more frequent interaction is needed to modify and translate the transferred knowledge for the new situation of foreign subsidiary (Bettis & Prahalad, 1986; Choi, 2001).

Delios and Bjorkman (2000) shows that the transfer of knowledge between different organizations can take place effectively through a mechanism of personal interaction. Their results confirm that the knowledge transfer process is usually successful when people act as a catalysts of effective communication between organizations.

Expatriates clearly play an important role in the transfer of knowledge from the HQ of MNCs to a local subsidiary in a foreign country. Furthermore, expatriates who have business experience in a particular industry can effectively facilitate the knowledge transfer process whenever the knowledge transferred is closely related to that particular industry. Industrial knowledge usually has inherent complexity and a tacit nature (Delios & Bjorkman, 2000). Thus, an expatriate who has more experience in the relevant industry can expect to be more successful in transferring knowledge from the HQ of MNCs to a local subsidiary in a foreign country.

Thus, we formulate the following hypothesis:

Hypothesis 1. An expatriate who has more business experience from a particular industry transfers knowledge more successfully from the HQ of MNCs to a subsidiary in a foreign country.

3.2. Effects of experience of a particular country

When MNCs enter a particular country, they must face and overcome several obstacles in order to be successful in that country. Zaheer (1995) called these obstacles the “limitations of foreignness”. MNCs must learn how to deal with local institutions, local customer needs, and a different socio-political and legal context. In other words, they must develop locally based capabilities and knowledge to match the competitiveness of local firms.

Staffs who are assigned to a particular country for the first time face a similar challenge upon their arrival in that country. They must also learn about their new environment. In addition, the acquisition of locally based capabilities typically takes time and can be achieved only by accumulating local experience (Johanson & Vahlne, 1977).

Moreover, when staff arrives in a foreign country, they often face strange situations in their personal living arrangements as well as in their implementation of tasks. They must often adapt to strange food and a different culture. And if they are accompanied by their family, the family members also face the same difficulties (Wild, Wild, & Han, 2003).

The experience of an expatriate living and working in a foreign country is expected to affect the process of developing locally based competence and knowledge positively. Thus, such previous experience is useful for transferring knowledge from the HQ of MNCs to a subsidiary in a foreign country. As mentioned earlier, the development and modification of knowledge is critical in the knowledge transfer process. Hence, any previous work or living experience of the expatriate is useful with respect to the development and modification of knowledge in the business situation of a subsidiary in a foreign country.

Given the logical deduction that the previous work or living experience of an expatriate positively affects the transfer of knowledge from the HQ to a subsidiary in a foreign country, we formulate the following hypothesis:

Hypothesis 2. An expatriate who has more working or living experience from a particular country transfers knowledge more successfully from the HQ of MNCs to a subsidiary in a foreign country.
3.3. Effects of the experience of expatriation

In contrast to the other two experiential factors of expatriates, both of which pertain to the indirect experience of expatriates, the experience of expatriation refers to the direct knowledge, feelings, and events that an expatriate experienced in previous activities in the country. In the expatriation period, expatriates interact extensively with local people and encounter various cases of knowledge transfer. The experience of prior transactions in a particular country is likely to facilitate the integration of the new instances of knowledge transfer in the same country (Very & Schwieger, 2001).

The research finding of Eriksson, Johanson, Majkgard, and Sharma (1997) shows that the direct internationalization experience of firms is closely related to the successful internationalization of firms. Similar to Eriksson et al. (1997) findings on a firm’s internationalization experience, expatriate experience should also lead to a higher potential of success. Direct expatriation experience should positively affect the outcome when expatriates fulfill their important task of transferring knowledge from the HQ to a subsidiary in a foreign country. Expatriates usually face several cases of knowledge transfer in the expatriation period, and through this experience, they may gain some expertise and personal know-how of the knowledge transfer process.

Based on this insight, we formulate the following hypothesis:

Hypothesis 3. An expatriate who has more expatriation experience transfers knowledge more successfully from the HQ of MNCs to a subsidiary in a foreign country.

3.4. Effects of the personal relationship development capability of expatriates

Research has emphasized that the transfer of knowledge between the HQ of MNCs and a subsidiary in a foreign country is based mainly on a mechanism involving expatriates and their personal interactions. Unfortunately, only a few studies have analyzed this process empirically (Delios & Bjorkman, 2000; Doz et al., 2001), and they tend to focus on the personal characteristics of expatriates instead of on background issues, such as the experience of expatriates in a particular industry or country.

The personal characteristics and background of expatriates can be critical in the knowledge transfer process because knowledge transfer involves human interaction. Back, Jung, and Choi (2002) claim that the communication and decision-making style of a firm’s top management team seriously affects the firm’s performance level. Similarly, an expatriate’s personal characteristics, such as communication skill with local partners and the capability of developing personal relations, have a critical effect on the success of the knowledge transfer process. That is, if a conduit of knowledge is obstructed by poor communication skills, the transfer of knowledge is neither smooth nor easy. On the other hand, if a conduit of knowledge is enhanced with good communication skills as well as the capability of developing personal relations with local partners, then the expatriate can successfully transfer knowledge—even complex knowledge.

The expatriate’s capability of developing personal relations is highlighted further when we draw attention to the modification and development of knowledge in the transfer process because the expatriate plays an important role in the process of adapting knowledge to a new situation, particularly through interaction with local partners.

Hence, we formulate the following hypothesis:

Hypothesis 4. An expatriate who has a higher capability of developing personal relations with local partners transfers knowledge more successfully from the HQ of MNCs to a subsidiary in a foreign country.

4. Empirical research method

4.1. Sample and data collection

To test the model of the hypotheses empirically, we conducted a survey among staff with expatriation experience at various Korean conglomerates, such as the Samsung Group, the Hyundai Group, and the former LG Group. The data collection was completed with the assistance of staff from the Public Relations Team or the Personnel Management Team; without their help, it would have been almost impossible to obtain lists of people with expatriation experience. Initially, we contacted them and explained the purpose of the study. The staff of each company then distributed and collected the questionnaire. Some questionnaires were distributed and collected by e-mail.

The first set of data was collected from August to October of 2005. However, because the data was insufficient, we collected a second set of data from January to March in 2006. In total, we distributed 480 questionnaires. Of these, 183 were collected (with a response rate of 38.1%), and two were answered unfaithfully. Hence, to analyze our hypotheses, we used 181 questionnaires.

4.2. Descriptive analysis of the database

The respondents of this survey worked for several conglomerates. The database contains samples from the Samsung Group (47%), the Hyundai Group (29%), the former LG Group (9%), the Daewoo Construction Company (8%), and the Hanjin Group (5%).
Each respondent had been expatriated an average of 1.35 times, and the average period of expatriation was 3.9 years (47.7 months). Thus, the respondents had adequate expatriation experience to participate in this survey.

The collected data shows that the respondents had been expatriated to various regions of the world. The most frequent regions were Asia (37%), North America (23%), Europe (19%), and the Middle East (13%). The less frequent regions were South America (5%) and Africa (3%). In general, the expatriation experience was distributed fairly well.

5. Empirical analysis and results

5.1. Operationalization of the variables

**Successful knowledge transfer (SKT):** The empirical concept of knowledge transfer is difficult to grasp because the transfer of knowledge involves continuous interaction between organizations. Numerous operationalized concepts of knowledge transfer exist, but they are difficult to measure. Hence, we chose to use self-reported measurement based on the “contribution of transferred knowledge” as a measurement of successful knowledge transfer (Choi, 2001; Kostova, 1999). That is, we evaluated the level of successful knowledge transfer in terms of the usefulness of the transferred knowledge for solving problems and improving performance with respect to the implementation of international business activities. To measure successful knowledge transfer (SKT), we used the following specific variables on 5 point Likert scale: the contribution level (of transferred knowledge) in solving problems of current business activities (SKT-1); the contribution level in increasing the operational efficiency of a department (SKT-2); the contribution level in improving the performance of current business activities (SKT-3); the contribution level in increasing the performance of the whole subsidiary (SKT-4); and the contribution level in developing the business processes of a department (SKT-5).

**Industry experience (IE):** The experience of a particular industry refers to the knowledge or skill gained as a result of implementing business activities in a certain industry for a long time before being expatriated. It is measured in terms of the total period of work in the particular industry. The specific question for measuring this concept, in month, is as follows: “How long did you work in this industry before expatriation?”

**Country experience (CE):** The experience of a particular country refers to the experience of working or living in a particular country before expatriation. It is measured in terms of the total period spent working or living in a particular country. The specific question for measuring this concept, in month, is as follows: “How long did you work or live in a particular host country before expatriation?”

**Expatriation experience (EE):** The experience of expatriation is measured in terms of the person’s total period of expatriation. All respondents were presumed to have some experience of expatriation because the questionnaire was distributed only to employees with expatriation experience. The specific question for measuring this concept, in month, is as follows: “How long have you worked for a particular subsidiary in a foreign particular country?”

**Relationship development capability (RDC):** The capability of developing personal relations is a useful concept for assessing the personal characteristics of expatriates. It is measured in terms of the expatriate’s level of harmony with local partners and adaptation to the local culture. The relationship development capability (RDC) of expatriates is evaluated in terms of their self-assessment of their work at a subsidiary in a foreign country. We used 5 point Likert scale for five types of responses (variables) as follows: “I am kind and cooperative with the local partners” (RDC-1); “I communicate smoothly with the local partners” (RDC-2); “I am very active in every matter” (RDC-3); “I have some difficulties in adapting myself to the local culture and local practices” (RDC-4); and “I have a close relationship with the local partners in private” (RDC-5). The fourth response has a different direction, so we recoded it in the opposite direction.

5.2. Validity and reliability test

Before analyzing our hypotheses, we used factor analysis to test whether the specific variables validly indicated the exact idea and characteristics of the conceptual variables of the research model. Excepting the SKT and RDC variables, we used only one specific question to measure each conceptual variable in the test. In the results of the factor analysis (Table 2), each variable has a high level of factor loading, which means that these operationalized variables are good indicators of the corresponding conceptual variables.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Factor loadings in each variable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Successful knowledge transfer</td>
<td>Factor loading</td>
</tr>
<tr>
<td>SKT 1</td>
<td>0.841</td>
</tr>
<tr>
<td>SKT 2</td>
<td>0.849</td>
</tr>
<tr>
<td>SKT 3</td>
<td>0.860</td>
</tr>
<tr>
<td>SKT 4</td>
<td>0.801</td>
</tr>
<tr>
<td>SKT 5</td>
<td>0.767</td>
</tr>
</tbody>
</table>
The reliability of the empirical test is important because it ensures the consistency of the analytical results when the test is repeated in the same manner. The SKT variable in the model has a reliability score of 0.896 (Cronbach’s alpha value) and the RDC variable is 0.672. The value of Cronbach’s alpha for all 13 factors, which are used in this model, is 0.828, indicates that our empirical analysis is reliable.

To examine the discriminant validity, we investigated the correlation between specific variables. For this purpose, we used Spearman’s rho method because the variables were measured by either a Likert scale or an interval scale. A high correlation level of the different variables means the discriminant validity of our empirical test cannot be guaranteed. In Table 3, we find that some correlations are high. Consequently, we worried about multi-collinearity between variables, and this potential problem was tested in the regression analysis (see Table 4).

In this paper, the most critical obstacle, which threatens the reliability of this analysis, is that two variables (SKT & RDC) are self-reported variables. It can cause common method problems (Donaldson & Grant-Vallone, 2002). However, this problem can be addressed through the below discussions.

First, as we mentioned in the operationalization of variables, the result of knowledge translation has to be measured by people who have participated in that process, because of tacitness of the knowledge translation process. So we mean that common method problem is unavoidable in the study of knowledge translation.

Second, some case evidence, which demonstrates expatriates’ capability of relationship development with local partners, is important when they translate their knowledge into local business activities. According to the annual “Report of Regional Study” which is written by the just-returned expatriates of Hyundai Group from 1996 to 1999, many expatriates suggest that good relationship development with local colleagues is critical to manage local business activities (Hyundai Learning Center, 1996–1999). For example, one expatriate reported that development and maintenance of close relationship with local people is one of the first important factors in managing local business projects. His main project was to increase production efficiency in newly established semi-conductor production line in Oregon Eugene factory of Hyundai Electronics. At that time, the most difficult thing was to communicate with local engineers. In order to increase the efficiency of the production line, he had to share his experiential knowledge and information in HQ’s factory, such as technical information about current production process improvement and current test result for process development. In this process, he found that relationship development with local partners on a personnel level was one of the most critical factors of successful project management and suggested inviting local partners to his home as one of the best alternatives to developing personal relationships with local partners (pp. 319–325 in 1999 version).

5.3. Test of hypotheses

Our hypotheses focus on the way the personal characteristics of expatriates affect the transfer of knowledge between the HQ of MNCs and subsidiaries in foreign countries. To investigate our hypotheses, we used multi-linear regression analysis; the results of which are shown in Table 4. The results of the regression analysis show that the empirical model is statistically suitable for analysis ($R^2$ value: 0.288; $F$-value: 17.222; $p$-value: 0.000). The result (values of VIF) shows that there is no risk of multi-collinearity (when VIF values are under 10, multi-collinearity among variables is not problematic).

**Table 3**

<table>
<thead>
<tr>
<th></th>
<th>SKT</th>
<th>IE</th>
<th>CE</th>
<th>EE</th>
<th>RDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKT</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE</td>
<td>0.163*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CE</td>
<td>0.007</td>
<td>0.067</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EE</td>
<td>0.361**</td>
<td>0.369**</td>
<td>0.066</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>RDC</td>
<td>0.507**</td>
<td>0.175</td>
<td>−0.036</td>
<td>0.350**</td>
<td>1</td>
</tr>
</tbody>
</table>

SKT, successful knowledge transfer; IE, industry experience; CE, country experience; EE, expatriation experience; RDC, relationship development capability.

* $p < 0.05$.

** $p < 0.01$.

**Table 4**

Results of multi-linear regression analysis.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Std. β</th>
<th>t-Value</th>
<th>p-Value</th>
<th>Tolerance limit</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>3.649</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE</td>
<td>0.067</td>
<td>0.998</td>
<td>0.325</td>
<td>0.901</td>
<td>1.110</td>
</tr>
<tr>
<td>CE</td>
<td>−0.029</td>
<td>0.443</td>
<td>0.658</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>EE</td>
<td>0.171</td>
<td>2.425</td>
<td>0.016*</td>
<td>0.841</td>
<td>1.190</td>
</tr>
<tr>
<td>RDC</td>
<td>0.447</td>
<td>6.640</td>
<td>0.000***</td>
<td>0.926</td>
<td>1.080</td>
</tr>
</tbody>
</table>

$R^2$: 0.288; $F$-value: 17.222; $p$-value: 0.000.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$. 

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The results of the regression analysis (t-value: 0.998; p-value: 0.325) show that we must reject Hypothesis 1, which states that “an expatriate who has more business experience in a particular industry transfers knowledge more successfully from the HQ of MNCs to a subsidiary in a foreign country”. That is, we failed to find evidence that an expatriate’s experience of working in a particular industry significantly affects the transfer of knowledge. Although the respondents of the survey had an average of 6.7 years of experience in a particular industry before expatriation, they thought the experience did not matter at all or that it was not closely related to the knowledge transfer process. This perception suggests that even if an expatriate has considerable business knowledge from long-term experience in a particular industry, experience has no significant influence on the transfer of knowledge from HQ to the new business environment of a subsidiary in a foreign country.

The results of the regression analysis (t-value: −0.443; p-value: 0.658) also compel us to reject Hypothesis 2. However, it is too early to conclude that the experience of an expatriate living in a particular country has no significant effect on the transfer of knowledge to a subsidiary in a foreign country because only 52 (28.9%) of the 181 respondents said they had any experience working or living in the particular foreign country before expatriation. Therefore, we conducted a t-test to see how those with experience in a particular country compared to those with no experience of a particular country before expatriation.

The results failed to confirm that the group of expatriates with experience working and living in a particular country before expatriation were more successful at transferring knowledge (group average: 5.68 vs. 5.63; F-value: 1.155; p-value: 0.284). Hence, we rejected Hypothesis 2.

On the basis of our results (t-value: 2.425; p-value: 0.016), we accepted Hypothesis 3, which states that “an expatriate who has more expatriation experience is more successful in transferring knowledge from the HQ of MNCs to a subsidiary in a foreign country”. This hypothesis implies that an expatriate with more expatriation experience tends to accumulate expertise and information about the transfer of knowledge between the HQ and a subsidiary in a foreign country and that this know-how facilitates the transfer of knowledge to the subsidiary.

The confirmation of Hypothesis 3 is similar to findings of Eriksson et al. (1997): They claimed that firms with more internationalization experience were more successful in international business activities. That is, firms with a greater abundance of direct experience in international business are more successful at international business than firms that have only accumulated indirect experience. Similarly, we can find no significant effect of indirect experience, such as the experience of being in a particular industry or country. However, we can confirm that direct experience, by which we mean previous expatriation experience, is beneficial to the process of transferring knowledge from the HQ to a subsidiary in a foreign country.

Finally, on the basis of our results (t-value: 6.640, p-value: 0.000), we also accept Hypothesis 4, which states that “an expatriate who has a higher capability of developing personal relations with local partners can more successfully transfer knowledge from the HQ of MNCs to a subsidiary in a foreign country”. As expected, an expatriate’s previous experience and capability of developing personal relations are critical factors in the knowledge transfer process. Interestingly, an expatriate’s personal characteristics, such as communicativeness with local partners and cultural adaptation, significantly affect the knowledge transfer process. This is a strong support for the knowledge translation perspective on knowledge transfer.

6. Concluding remarks and implications

We examined how the personal characteristics of expatriates affect the transfer of knowledge between the HQ and a subsidiary in a foreign country. Through empirical analysis, we found that the expatriation experience (Hypothesis 3) of expatriates and their relationship development capability (Hypothesis 4) both have significant positive effects on the transfer of knowledge. However, we failed to find statistical evidence that an expatriate’s experience of the particular industry (Hypothesis 1) or the particular country (Hypothesis 2) has a significant effect on the international transfer of knowledge.

Based on our results, we draw the following conclusions. First, we confirm that expatriates play an important role as moderators in the transfer of knowledge between the HQ of MNCs and a subsidiary in a foreign country. While the existing literature focuses on the importance of knowledge characteristics (Kogut & Zander, 1993) and the transfer process (Bresman et al., 1999), we focused on the role of expatriates in the international transfer of knowledge. Moreover, even though this topic is difficult to analyze empirically because of the tacitness and complexity of knowledge and the knowledge transfer process, we used an empirical test for our analysis.

Second, our research has broadened our understanding of the international transfer of knowledge. We found that direct experience of the international transfer of knowledge, such as expatriation experience, has a positive impact on the international transfer of knowledge. However, we failed to confirm that an indirect experience of the international transfer of knowledge, such as experience of a particular industry or country, has a significant effect on the international transfer of knowledge. Thus, firms should expand the pool of human resources with expatriation experience and develop an expatriate management system for more effective operation. This expansion, which in turn facilitates the international transfer of knowledge, is useful for helping a firm develop its global competitiveness.

Third, huge implications can be derived from the confirmation that an expatriate’s capability of developing personal relations has a strong effect on the international transfer of knowledge. By building a good relationship with local partners, expatriates can successfully transfer knowledge internationally, which implies that the transfer process involves
sophisticated interaction with local partners rather than just the delivery of knowledge per se. MNCs should therefore prepare various ways of developing relations between expatriates and their local partners in foreign countries.

Our conclusions have some important managerial implications. First, the top management teams from the HQ of MNCs and subsidiaries in foreign countries must recognize the important moderating role of expatriates in the international transfer of knowledge. In other words, even in the case of complex knowledge, an expatriate with good communication skills and personal relationship-development capability with local partners can increase the possibility of successfully transferring knowledge internationally. For this reason, firms should provide various incentives to ensure that expatriates play an active role in foreign subsidiaries.

Second, when firms select an expatriate, they should select a person who has cultural literacy and the capability of developing personal relations with foreign partners. Furthermore, although expatriates must acquire professional knowledge and expertise in the relevant field of business, they should also have the necessary communication skills and capability of developing personal relations with foreign partners because the international transfer of knowledge usually happens in a foreign country. Thus, in the expatriate selection process, firms must consider these aspects. Moreover, training programs for expatriates should include communication skills and the development of personal relations.

In spite of its contributions, this paper has several limitations. First, the size of the sample is inadequate. It was not easy to access the sample group because of the difficulty of encouraging private companies to provide a list of employees with expatriation experience. In addition, for the data collection, we had to rely totally on the assistance of the internal staff and the data were collected from just a few Korean conglomerates. Finally, another possible problem is that many important measurements of the variables relied on personal perception and memory. Moreover, the data are collected at the same time from the same participants. It can cause CMV (common method variance) problem (Podsakoff & Organ, 1986). In order to avoid this problem, we try to use several methods, e.g. using opposite direction of question. However, it needs more sophisticated research design, such as multiple sources of information for some of the key measures.

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